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July 10, 1972

RAILWAY AGE

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SPECIAL REPORT:

Railroads at midyear

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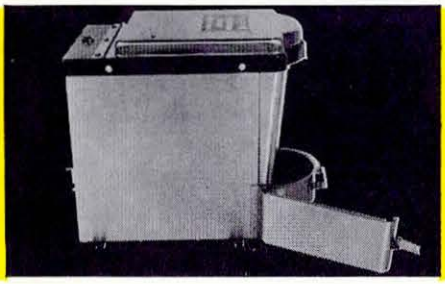

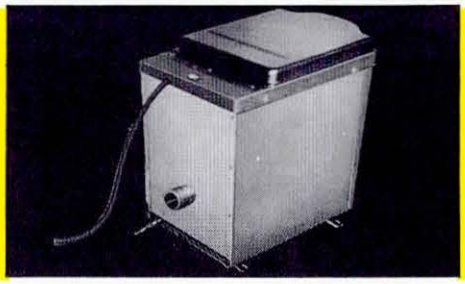

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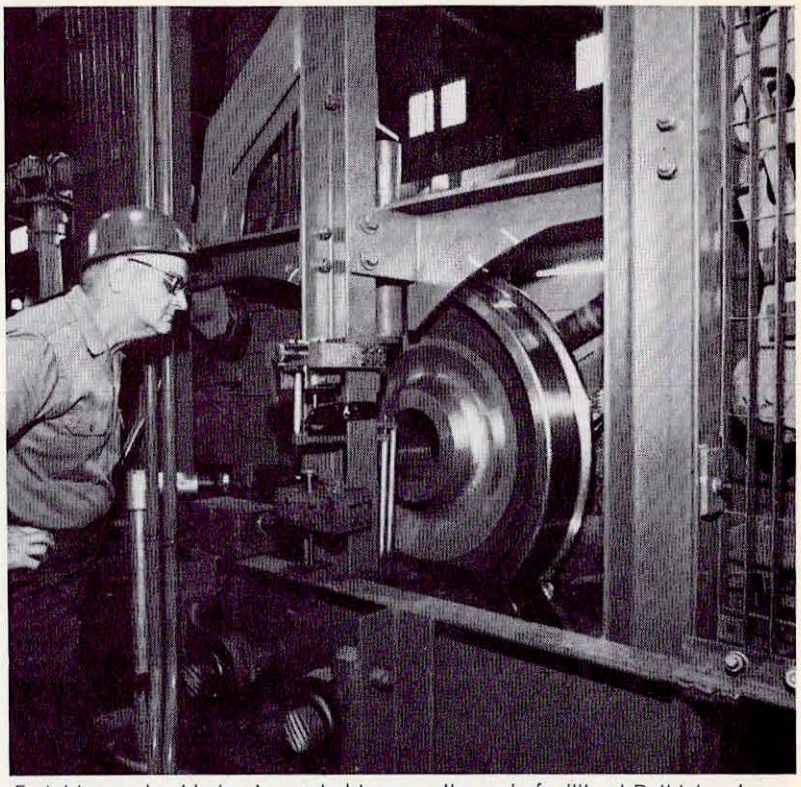

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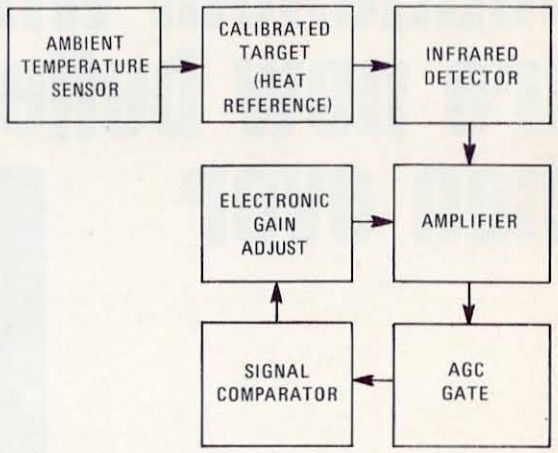

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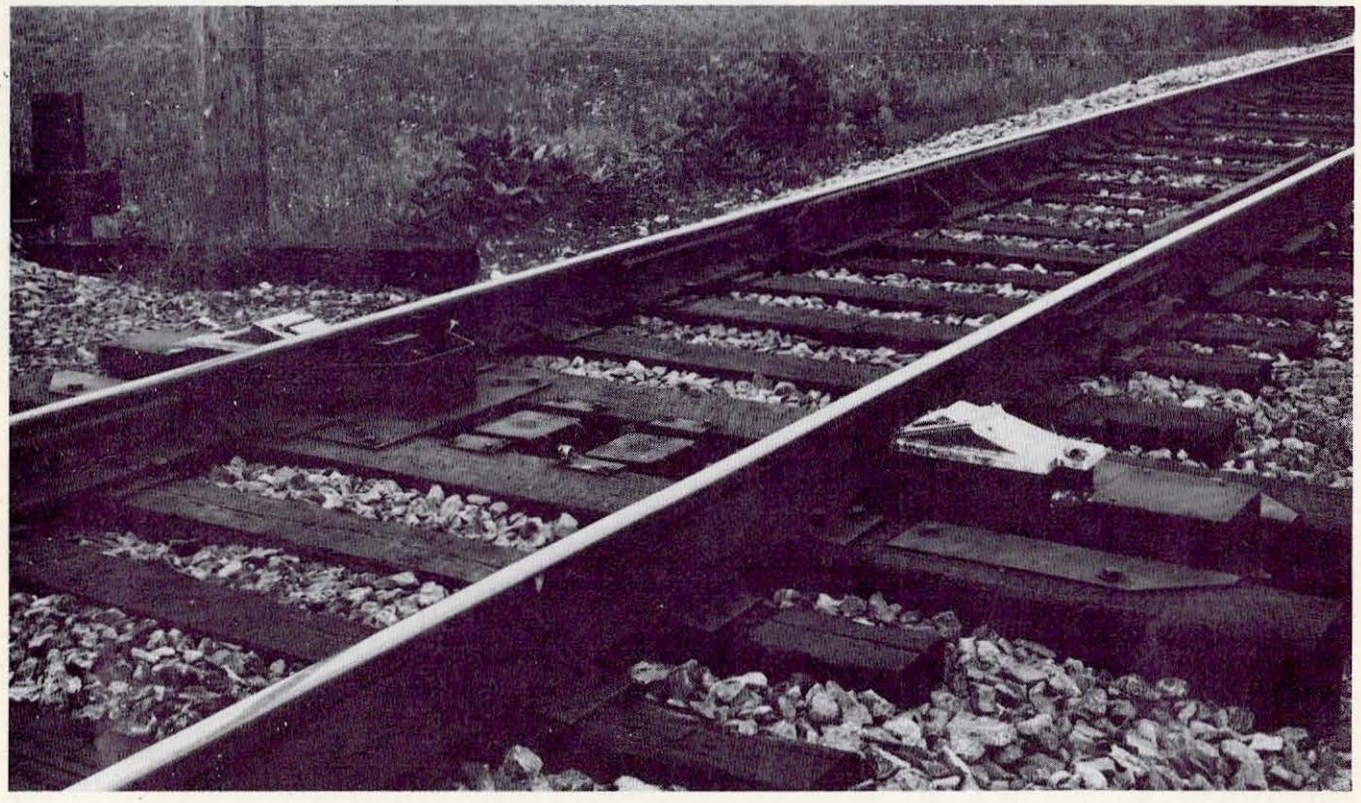

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ROBERT G. LEWIS: Publisher
LUTHER S. MILLER: Editor
FRED C. MILES: Executive Editor

Mechanical: Fred N. Houser
Transit: Joe Asher
Art Director: Maurice H. Mates
Editorial Assistant: June Meyer
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Promotion Director: George Dusenbury

Editorial and Executive Offices
Chicago, Ill. 60602, 29 E. Madison St.
(312) 641-5815

C. JAMES FISHER: Vice President—Sales
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Mechanical: Robert D. Bartley
Engineering:
Merwin H. Dick R.E. Dove
Signaling & Communications:
Robert W. McKnight
Editorial Assistant: Wanda Brown

Washington, D.C. 20004,
National Press Bldg. (202) 347-1155
Washington Editor: Reid Beddow

Brighton, Sussex, England
8 St. George's Place (Brighton 685867)
International Editors:
John Levett Paul Goldsack

Advertising Sales Offices:
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Inside

LUTHER MILLER

NOTES FROM THE UNDERGROUND

"The big difference between Europe and America right now," observed one West European transit planner recently, "may be that we are less interested in the people-mover business than in the business of moving people." The business of moving people is certainly a thriving one in Europe these days, as members of Railway Age's recent Rail-Transit Seminar tour discovered.

For James A. Caywood, senior vice president of De Leuw, Cather, the highlight of the trip was the visit to the new Regional Express line in Paris: "The construction, the finishing of the stations, the architecture, the functional layout, monitoring and equipment is the best I have seen anywhere."

Washington City Councilman Stanley Anderson (who is also vice chairman of WMATA) was impressed with the comparative ease with which European cities cut through the governmental red tape that so often strangles efforts in the U.S.

What intrigued architect Stanley Allan of Harry Weese & Associates was the planning that has gone into handling the vast crowds expected for the Olympics in Munich: "The site is surrounded by arterial and freeway type highways; planners have separated S-Bahn, U-Bahn, trams, buses and parking, so that circulation is peripheral, feeding radially in and out—with the large Olympic Stadia area all pedestrian."

Visiting Leningrad for the second time, former Maryland Congressman (and WMATA Director) Carlton Sickles was impressed anew with that city's trainscreen stations: "I am hopeful that a demonstration project can be initiated in the Washington system to test the feasibility and effectiveness of such a device."

For Mathew Platt, WMATA's assistant planning officer, Hamburg with its total transport integration was the tour's high point: "My feeling was strengthened that a major effort must be made to ease the rider's lot, especially from the viewpoint of transfers and a coordinated fare structure."

Parsons, Brinckerhoff's Daniel Jerman found Leningrad's Metro "first rate" in "cleanliness, lighting, ventilation, architectural treatment, noise control, equipment."

Budapest's Russian-built escalators, with their high speed (180 feet per minute) and extreme length (almost 250 feet) impressed everybody, including Girard Spencer of Coverdale & Colpitts who commented: "It would appear that the reliability of this equipment far exceeds the reliability of escalator equipment in the U.S."

Railway Age Art Director Maurice Mates (see cut) recorded the trip in pictures, some of which appear in the report beginning on p. 38.

MATES

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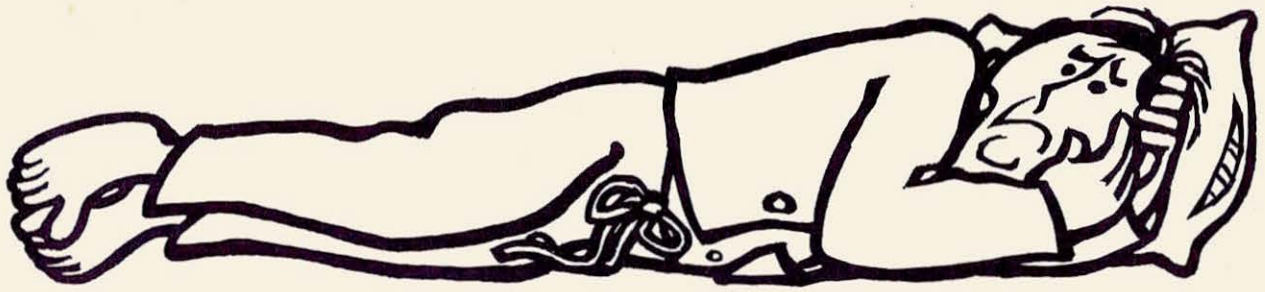

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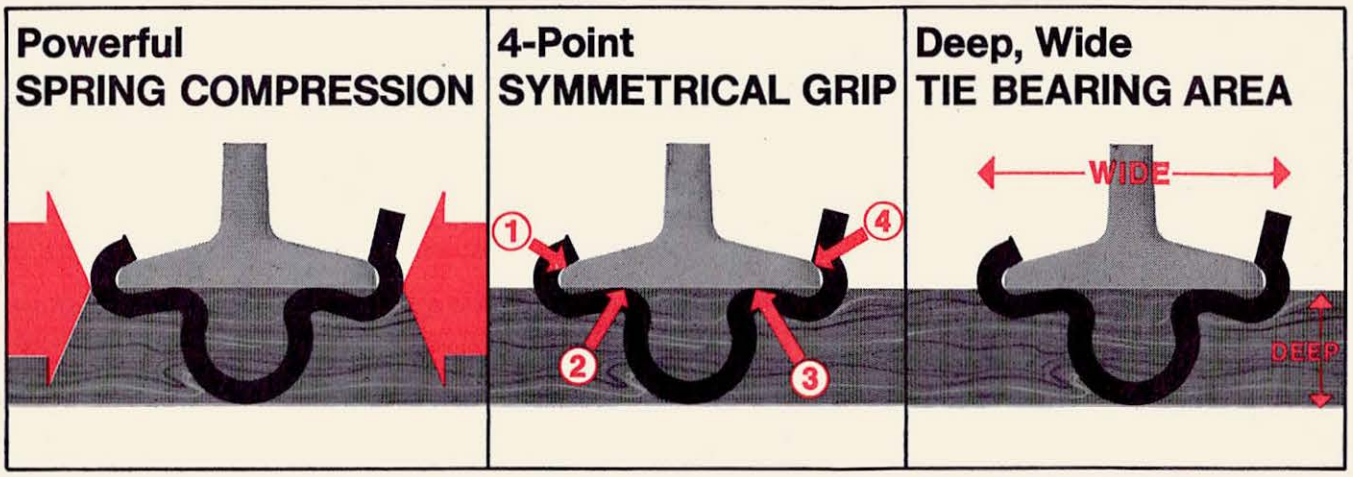

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RAILWAY AGE

July 10, 1972

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	Reading commuter line being extended 1.8 miles	p. 28
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FREIGHT CARS	PTLX fleet hits 10,000 mark	p. 8
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COVER

Railway Age Art Director Maurice Mates photographed PATH's new Hawker-Siddeley cars on a trial run near Newark N.J.

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Short and Significant

W.L. SMITH NAMED MILWAUKEE ROAD CHIEF

Milwaukee Road has reached out to a competitor, to find a successor to President Curtiss E. Crippen. Milwaukee's choice: Worthington L. Smith, vice president-market development, Burlington Northern. Smith came up through the operating department on Great Northern and, when BN merger became effective, he was assigned as regional vice president at Seattle. When BN set up its new profit-center-oriented market development department, however, it was Smith who called to St. Paul to get the operation running (RA, Sept. 27, 1971, p. 24). Crippen, president of Milwaukee since 1966, now becomes vice chairman and will retire at the end of 1972 under the company's pension plan.

SCL TO SPEND $5 MILLION FOR NEW YARD

Seaboard Coast Line will build a new freight car classification yard in Wilmington, N.C., at a cost of more than $5 million. The new yard—to replace two existing yards—is designed to expedite the flow of rail freight traffic to and from Wilmington. It will contain 55 tracks, the longest of which will be nearly two miles in length, and will have a total capacity of about 2,250 cars. Included in the yard will be a 12,000-square-foot office building to house the yard office and freight agency.

MeC CHIEF PROPOSES SINGLE RR FOR U.S.

Consolidation of all U.S. railroads into one single corporation has been proposed by E. Spencer Miller, president of the Maine Central. Writing in the railroad's company magazine, Miller described what he called the "American Railroad Corporation" as an entity that would "save and improve the railroad industry, produce economy and efficiency for patrons, render better and more stable working conditions for railroad men and women and create a profitable and powerful corporate unit in the free enterprise system attractive for capital investment on several levels." He likened the proposed corporation to American Telephone & Telegraph. It would consist of several operating subsidiaries, each responsible for railroad service in a particular geographical area.

CARGO THEFT COSTS $1 BILLION A YEAR

Theft and pilferage of cargo in the U.S. cost the transportation industry, and the public, more than $1 billion a year, according to a Department of Transportation report released by Secretary John A. Volpe. In a report prepared for DOT by Braddock, Dunn and McDonald, Inc., the total cost of theft-related losses in the trucking industry in 1970 was estimated at $850.5 million; maritime, $85.5 million; rail, $54.5 million; and air cargo, $15.4 million.

PTLX CAR FLEET HITS 10,000 MARK

The 10,000th car in Pullman Transport Leasing Co.'s fleet of specialized railroad equipment has been delivered to Northern Petrochemical Co.'s large polyethylene plant near Joliet, Ill. A model of the car, a 5,280-cubic-foot-capacity "Maxi-flo" covered hopper car, was presented to W.J. Haude, Northern Petrochemical president, by A.L. Berry, PTLX president, at ceremonies in NP's Des Plaines, Ill., headquarters. Berry said "the 10,000th car is a significant milestone for us. It symbolizes the quality as well as the growth and diversity of our fleet, which has doubled during the past four years. . .We now have 8,000 cars under lease to 140 different shippers. . .Beyond this we also have nearly 2,000 cars on lease to various railroads."

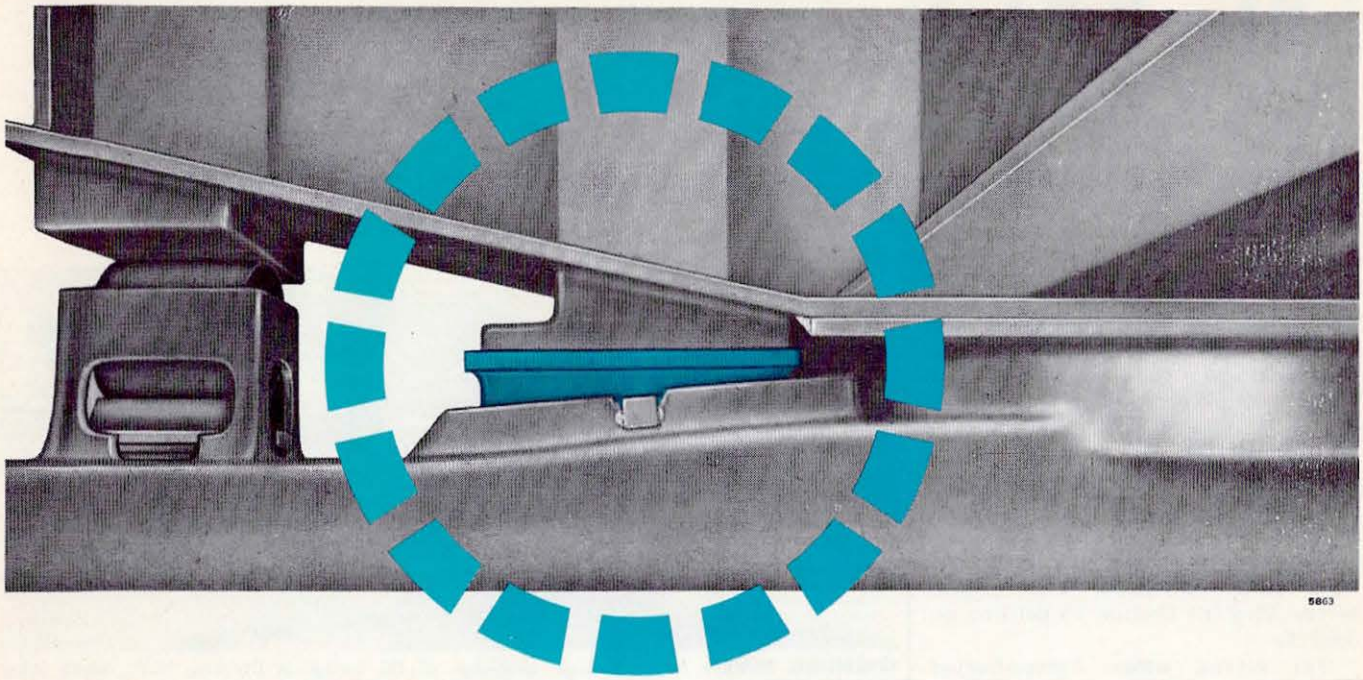
ON OPENING FREIGHT-CAR DOORS. . .

Figuring that fork-lift operators on shippers' and receivers' docks were going to continue to open and close freight-car doors with their lift trucks, some railroads have been specifying doors equipped with tine brackets as a safety and damage-prevention move. Now, however, it appears that any use of industrial trucks to move car doors is taboo. A regulation established by the Department of Labor's Occupational Safety and Health Administration says that "Trucks shall not be used for opening or closing freight doors." And the word is that OSHA has begun enforcing the rule.

D.C. METRO AWARDS LARGEST CONTRACTS

Awards of $168 million in new design and construction contracts have been approved by directors of the Washington Metropolitan Area Transit Authority. This is the largest such outlay the WMATA board has made at one session. The action obligates nearly all the $887 million available to WMATA for design, engineering, construction and real estate acquisitions. The largest single contract among the new awards ($91.6 million) went to Rohr Industries for 300 rapid transit cars; the second largest ($48.8 million) went to Slattery Associates, Inc., and Grow Tunneling Corp. for construction of the bi-level L'Enfant Plaza underground transfer station. The two contracts are the largest WMATA has awarded to date.

C-PEP CONTROLS HUNTING



ON LADEN OR EMPTY CARS

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Circle 4 on coupon page 49

Agnes axes Erie; other roads' damage heavy

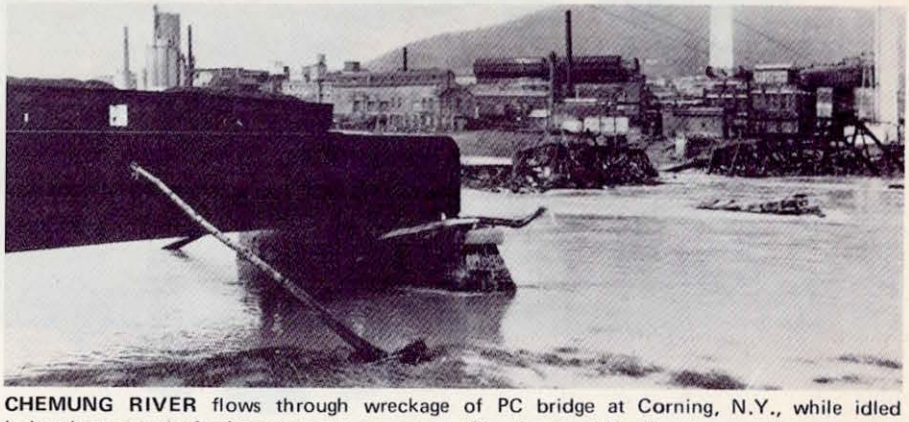
Hurricane Agnes, which blew out of the Gulf of Mexico in mid-June, figuratively blows into the Cleveland Federal District Court this week as Judge R.B. Krupanski opens the first hearing on the Section 77 bankruptcy reorganization of Erie Lackawanna. It is the nation's second largest rail bankruptcy of modern times and comes just two years after Penn Central took a similar step. EL did not wait for all the water to drain from its flood devastated mainline in New York state's Southern Tier Region before filing the Section 77 petition on June 26.

For several other Agnes-affected Northeastern roads there was no refuge in bankruptcy—they were already there. Only now they were saddled with millions in storm-generated losses. Penn Central reported "enormous" damage in Pennsylvania and New York. Reading and Lehigh Valley experienced widespread damage that adds up to millions of dollars. Baltimore & Ohio, Chesapeake & Ohio, Norfolk & Western and Southern were also affected by Agnes in varying degrees as she swirled over Virginia and Maryland.

But it was as Agnes looped and stalled over central New York and Pennsylvania that she delivered her most telling blows—and rains. At an inch-per-hour rate, rain fell on Hornell, Corning, Elmira, Wilkes-Barre and Harrisburg. As the Susquehanna, Chemung, Allegheny and other rivers rose, railroad bridges, enbankments and fills went down. Two weeks after the storm only the most approximate estimates of total damage could be made. And while governments were struggling to restore highways, the railroads were once again proceeding with line restorations on their own. Not even Federal financial aid appeared in prospect.

Lehigh Valley had 135 tons of steel on the way to Athens, Pa., for the rebuilding of its Susquehanna River bridge even before the water went down and damage could be fully assessed. Southern's $1 million in line damage, primarily in Virginia, was sufficiently repaired so that operations were back to near normal in just one week.

EL has reported $9.2 million in flood losses, including $4 million in lost revenues. There was damage at numerous points along the 200 miles of mainline from Binghamton to Salamanca, N.Y., with major destruction between Elmira and Hornell. Within a week, track was restored from Buffalo and Salamanca to Hornell, but the gap to Elmira promised to make EL detours a feature of its operations for three weeks. EL trains were rerouted on Penn Central through Buffalo and Syracuse, or over affiliated Delaware & Hudson through Montreal and via Canadian roads.



CHEMUNG RIVER flows through wreckage of PC bridge at Corning, N.Y., while idled industries represent further squeeze on revenues of hard-pressed Northeastern roads.

Damage and lost revenue were but two factors leading to the filing of EL's reorganization petition, according to Gregory W. Maxwell, president and chief executive officer. Another major factor, he said, was the failure of two Federal agencies to approve adequate price relief in the form of freight rate increases to offset wage increases approved by the Pay Board early in 1972.

Southern President W. Graham Claytor had earlier warned that the April action of ICC in suspending the 4.5% average freight-rate increase could have a "devastating" effect on marginal railroads caught in the wage/price squeeze (RA, May 8, p. 10). Maxwell noted that the freight rate increases of 16% granted during the past two years were clearly inadequate to cover wage increases amounting to approximately 24% in the same period, along with a substantial increase in employment costs. Erie Lackawanna, he said, found it impossible to meet its current obligations when the slowness in authorizing price relief was coupled with the sharp decline in revenues resulting from Hurricane Agnes.

It is the hope of EL management that a Section 77 reorganization would permit not only a recovery of the cash generating powers of the road, but also would permit over-all revision of "the unwieldy and overburdening" debt structure that has handicapped the road for generations.

EL's public ownership is represented by preferred shares in Dereco, Inc., that was set up in 1968 as an 81%-owned subsidiary of Norfolk & Western. Dereco was established to protect N&W assets against the debt structure of EL, as well as that of Delaware & Hudson (also incorporated in Dereco). D&H is not in reorganization and continues under Dereco control.

N&W will be obligated to issue up to 821,280 shares of its common stock on April 1, 1973, in exchange for Dereco preferred stock and one issue of EL convertible bonds.

Four days after EL filed for bankruptcy, N&W announced it will write off as extraordinary charges to 1972 income approximately $58.5 million of its investment in Dereco and EL. N&W was not required to assume any EL debt and is not responsible for its payment. N&W had about $1 million in damage of its own from Agnes, primarily on its Shenandoah Valley line.

"We regret that EL could not be made viable within the limits of its present capital structure," said John P. Fish-

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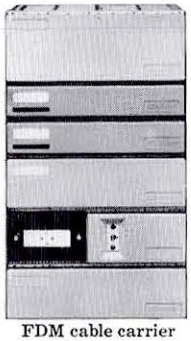
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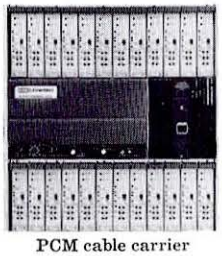
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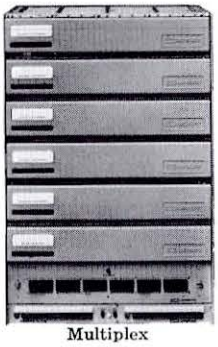
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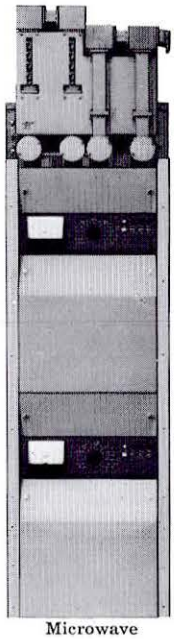
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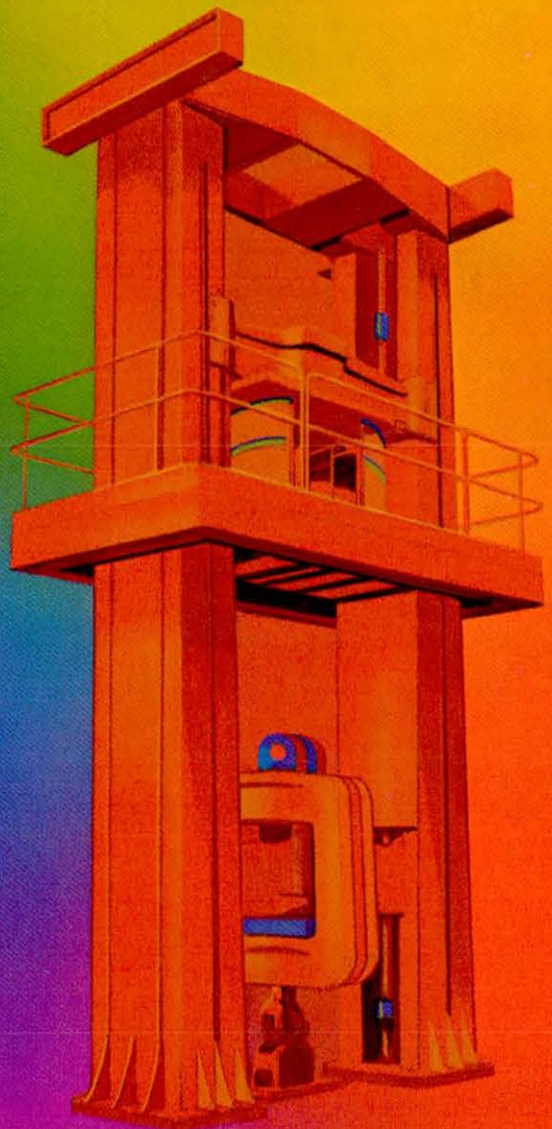

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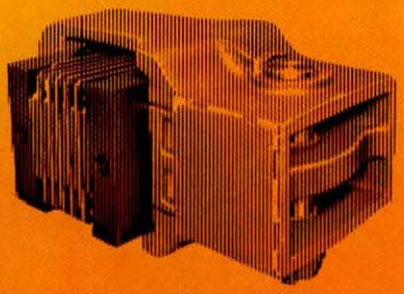

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wick, N&W president. "Despite dependable freight and commuter service and the dedicated efforts of its officers and employees, EL revenues were inadequate to cover its rising costs and heavy debt load. The extensive damage caused by Hurricane Agnes was the final blow.

Elsewhere roads reported heavy damage that was only of less corporate consequence than that inflicted on EL. C&O/B/O reported second quarter earnings were down to $15.4 million, compared with $19.5 million for the same 1971 period. Along with Agnes' disruptions, there was the continued lag in traffic.

Floods put out of service several hundred miles of C&O/B&O line but alternate routes permitted service to be resumed, generally within 48 hours. Direct storm damage is estimated at $4.8 million and economic justification for restoring some of the affected lines is now under study.

Wellsville, Addison & Galeton reports that its line from Wellsville, N.Y., to Galeton, Pa., has been so damaged that it probably will never be rebuilt. The 37-mile segment had been an abandonment candidate even prior to Agnes.

Penn Central said damage to tracks, rolling stock and facilities will amount to millions. "Restoring these lines rapidly, on an emergency basis, to serve the needs of the communities in the stricken areas and our shippers generally, has required the expenditure of millions. Even though these vital needs have been met, additional millions will be required to put our lines back, on a permanent basis, as they were before this catastrophe."

Within a week, PC President W.H. Moore reported that "some of our minor branches are still out of service where flood waters simply destroyed the railroad, but our main routes are operating with minimum delays and most of our flood-associated problems are behind us and business is approaching normal."

He noted that branches and secondary route around Wilkes Barre, Corning and Elmira are out of service because of washouts and blockage by fallen trees and other major debris. "We are detouring around all these points on our own lines to maintain service," said Moore, "but we cannot resume shipments to these points until repairs can be made."

Serious damage occurred on freight lines at Harrisburg, Pa., and on the Harrisburg-Baltimore line along the Susquehanna River. Service through Harrisburg on PC's mainline was restored in three days and on its Harrisburg-Buffalo line in a week. "This represents herculean effort on the part of railroad people to restore washed-out roadbeds, replace culverts and strengthen bridges in many areas where severe flooding occurred," said Moore.

Lines on Labor

GUS WELTY

TOMORROW'S MANPOWER

A lot of people have done a lot of thinking and studying and writing about railroads and their future personnel needs. Management has done its research, the labor organizations have done theirs. Now government—through the Department of Labor's Bureau of Labor Statistics—is having its say, in a 90-page bulletin titled "Railroad Technology and Manpower in the 1970s." This was an ambitious undertaking and the report is packed with statistics, but it contains few surprises, in a purely logical sense. Perhaps the one surprise it does offer—for those who regard the Department of Labor as labor's lobbyist—is the emphasis it places on productivity increases attributable to technology and increases in capital efficiency.

WHAT'S IN IT FOR MANAGEMENT—AND FOR LABOR?

The BLS study forecasts just about what most other analyses are forecasting—namely increased rail traffic (though perhaps not an increase in market share), gains for piggyback and unit-train operations, improvements in motive power and freight cars, and increased reliance on the computer. The study also suffers, to some extent, because although it bears a 1972 publication date, much of its data is hardly current (and a good portion of it is no closer to today than 1967).

Keeping these caveats in mind, what does BLS think about the future of rail employment? BLS takes a middle ground, combining a certain optimism with a certain pessimism. Among its observations: "Total employment is expected to decline further even if the economy continues to grow at its long-term average rate. Nevertheless, an estimated 235,000 job openings are expected, as a result of the number of retirements between 1967 and 1975."

As for the makeup of the work force, BLS finds that since 1957 "declines in employment have taken place in every major occupational group in the industry. However, the proportion of total employment represented by specialized and high-level manpower has tended to rise. Employment in selected professional and clerical occupations has been rising because of changes such as the introduction of the computer and new directions in management and marketing operations. In the case of skilled labor, where proportionate declines have occurred, these changes have been relatively small. Occupations requiring little formal education, such as helper or laborer, have been most adversely affected." The BLS "most optimistic" estimate of rail employment in 1975 is 540,000—and that's a lot more optimistic than certain other students of the business feel.

NOT PERFECT, BUT WORTH A BUCK

The figures BLS has compiled are valuable, if too often old. The conclusions may be valid. Still, there are a couple of little things that tend to put you off, just a bit. One is the cover of the booklet itself—an arty-type rendition of, apparently, an interlocking plant. The Bureau of Railroad Safety's Mac Rogers would condemn it on sight. Then, there is an observation about gas-turbine locomotives "being used on a limited basis in the West." UP operated its last turbine in late '69. Nit picking aside, though, Bulletin 1717 is worth shop space, and at $1, it's a bargain.

Watching Washington

REID BEDDOW

NOW—THE RR ACT OF 1972

Look for a major effort next year by the intercity passenger train lobby in the Senate to pass new and far-reaching rail legislation in Congress that perforce will affect freight service, too. Mainly from Northeast Corridor states, members of this bloc for years have individually introduced pet rail projects, a recent example being the unsuccessful attempt to provide track upgrading funds in the Amtrak appropriations bill. They are now ranged behind a much more comprehensive program, and they have enlisted the support of a powerful ally: Sen. Vance Hartke (D.-Ind.), chairman of the Senate Surface Transportation Subcommittee.

Their campaign has already begun. On June 28 Sen. Hartke introduced S. 3769, the "Interstate Railroad Act of 1972," which would provide $1 billion in Federal loan guarantees for track upgrading and rebate of property taxes paid by rails to states and localities. Other sponsors are Sen. Robert A. Taft, Jr. (R.-Ohio), Sen. Claiborne Pell (D.-R.I.), Sen. Harrison Williams (D.-N.J.), and Sen. Lowell Weicker (R.-Conn.), all of whom have been articulate advocates of Federal aid to commuter and intercity rail passenger service. While it is too late this session for hearings on the bill, sponsors will re-introduce their proposals early in 1973.

S. 3769 is the brainchild of the National Association of Railroad Passengers' Anthony Haswell. But it has been cleaned up to remove two major rail worries: a "robbing Peter to pay Paul" financing mechanism, which in effect would have Western rails subsidizing Eastern improvements, and a DOT study of Federal acquisition, operation, and maintenance of track and rights of way. The latter, incidentally, was torpedoed by Harold Crotty and the Maintenance of Way brotherhood, which flatly opposed it.

Sen. Hartke announced energetic support for the bill, saying darkly that the plan was desirable because of the as yet secret finding of his subcommittee's study of the Penn Central bankruptcy.

AND HERE ARE THE BASIC GOALS

Major provisions of the bill would (1) create a roadway rehabilitation fund from payments by rails of 20% of their annual net income, or about $100 million—bankrupt or marginal roads could apply to the fund for track rehabilitation grants, while excess funds would be available for grants to solvent roads; (2) reimburse rails for state and local property taxes, about $200 million annually; (3) authorize $1 billion in Federal loan guarantees to help rails individually to finance upgrading; (4) direct DOT to designate a basic "Interstate Railroad System" equipped with automatic block signals, about 82,000 miles; (5) require this basic system to be maintained at standards permitting train operation at speeds of 80 mph, and (6) empower DOT to order trackage-sharing agreements.

Car information system: Phase I

The first step toward a computerized national freight-car information system has been taken with a go-ahead for a detailed systems design. The AAR board of directors authorized this phase in June. Heart of the system would be a large computer at the AAR's Washington headquarters which would receive its input over a data network from the computers of individual railroads.

A 50-man task force, headed by Richard P. deCamera who has been on loan from Illinois Central, has worked on the project since last fall and now reports the system it has conceived would be fully operational by Jan. 1, 1974. In making its recommendations to the AAR board, the task force emphasized that the "primary benefit from the proposed system will be improved equipment utilization resulting from better car distribution."

The task force also found that the car information system would enhance the industry's ability to function as a nationwide transportation system. It would predict the potential for improved operations through better interroad communications and use of advance information for operational planning.

Citing the roads' decision to explore a project involving substantial money outlays at a time when many roads are in a financial squeeze, Stephen Ailes, AAR president, said: The industry is "determined to recapture a greater share of the growing freight transportation market through improved operations, expanded availability of equipment and greater customer satisfaction."

Progress toward improved car utilization is possible, said Ailes, because of the heavy investments railroads have made in recent years in extensive communications and computer systems and in standardizing codes and formats to facilitate their communications with each other and with customers.

The new system would significantly augment TRAIN—TeleRail Automated Information Network—which was established by AAR in 1967. The task force stressed the importance of complete, accurate and timely data input and reported its survey showed that, by July 1973, "most roads will be able, without major redesign, to provide the minimum information essential" to inaugurate the new system.

The AAR steering committee directing the task force includes R.B. Curry, vice president, management systems; William J. Harris, Jr., vice president, research and testing; and R.R. Manion, vice president, operations.

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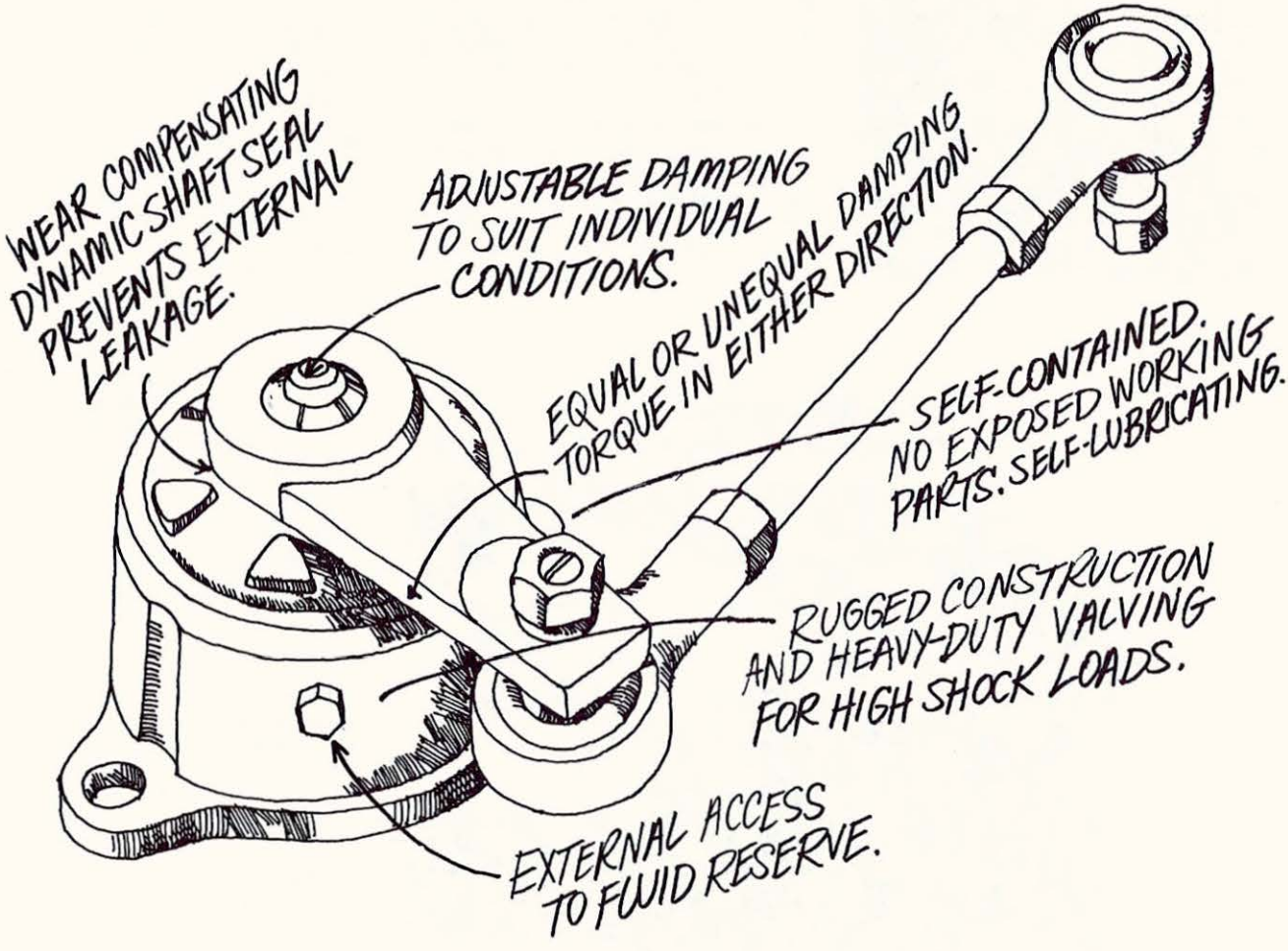
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General Electric progress in

Prototype car runs at 85 mph as New Haven program proceeds on schedule

A prototype of General Electric's New Haven line commuter car has reached speeds of 85 mph and has logged more than 7,000 miles during rigorous testing on the world's first privately-owned electrified test track in Erie, Pennsylvania.

The car is the forerunner of a modern, air-conditioned fleet of commuter cars being built by General Electric and scheduled to carry New Haven riders along the route between Grand Central Terminal and New Haven, Connecticut, starting this fall.

The New Haven prototype program — which is a "first" in the industry — was decided on to provide patrons with more comfortable, safer, and more on-time rides. The comprehensive testing will increase reliability and car availability, while lowering maintenance costs.

The five-mile GE test track serves to help "debug" cars before they enter service. GE engineers describe the track as inflicting "abusive" testing on the cars. Portions of the track and the roadbed impose conditions more severe than a car is likely to encounter during normal revenue service. Tests include various car suspension arrangements to determine which combination best provides the desired ride quality.

The test track carries both AC and DC power since both types of energy are required along the route from Grand Central Terminal to New Haven. As a result, the New Haven commuter cars are equipped with both AC and DC control systems, making them one of the most complex commuter cars ever built.

The New Haven program is on schedule with production models scheduled to start operational testing on the New Haven this summer.

One hundred forty-four New Haven cars presently are scheduled to be produced by GE, with passenger service beginning this fall.

More testing scheduled

In addition to pre-delivery testing on the GE track at Erie, all production cars will undergo operational testing on the New Haven property prior to the start of passenger service.

New $14 million assembly building in operation

The New Haven commuter cars have the distinction of being the first cars to roll out of General Electric's new $14 million rapid transit and commuter car assembly facility at Erie, Pa.

Dedicated to "Man on the Move", the 350,000 square foot building is the most advanced in the industry. The latest in manufacturing techniques have been applied including numerically controlled machinery, an automated parts storage and retrieval system and a whole new approach to car assembly — all adding quality to the completed car and helping assure on-time delivery. GE is the nation's first car builder to also manufacture the propulsion and control systems.

Included in the complex are areas for subsystems testing, automated systems evaluation and environmental testing.

The new facility, along with integrated systems management and extensive testing procedures, is designed to establish new standards of reliability, comfort and performance for rapid transit and commuter cars.

transportation systems

General Electric transportation systems

Connecticut officials check progress of New Haven cars

Representatives of the Connecticut Department of Transportation and the Connecticut Transportation Authority visited General Electric's Erie plant to see first-hand the progress of the New Haven line commuter cars being assembled.

Frank M. Reinhold (front right), chairman of the Connecticut Transportation Authority and Samuel Kanell (front center), deputy commissioner, Connecticut DOT, receive a briefing from GE's Van Claxton (front left), at the test track where the New Haven prototype car is undergoing extensive testing.

The New Haven commuter service is jointly supervised by the Connecticut Department of Transportation and the New York Metropolitan Transportation Authority.

Key features of New Haven cars

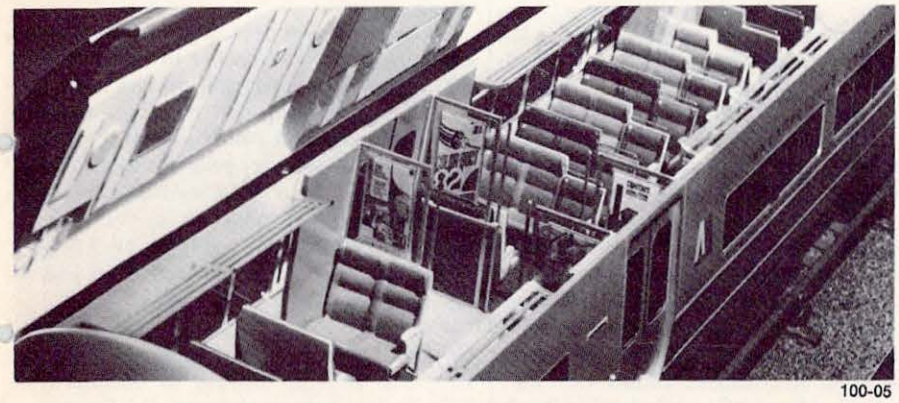
Reliability is the primary concept behind the design of the New Haven cars. To achieve maximum reliability, performance-proved technology is used to the greatest degree. New designs such as the clean air system for equipment cooling and the braking resistor installation on the roof increase reliability and decrease maintenance costs. Finally, the whole system undergoes exhaustive testing on the GE test track to "debug" the car.

The same traction motor design concepts, insulation systems, electrical design and method of construction have been used extensively and tested in actual commuter operation. The complex AC/DC control system, required for New Haven operation, also benefits from actual operational experience.

The new equipment cooling system provides clean air from the roof rather than from the traditional position under the car — where dirt, conductive material and moisture frequently are ingested. The *clean,* filtered air is then distributed to traction motors, motor-alternator set, resistors, the air compressor for the brake system and the control groups. Increased reliability results.

Historically the braking resistors were mounted under commuter cars. This increased the likelihood of overheating of the underfloor equipment, contamination with dirt and moisture and difficulty in maintenance. GE has placed the resistors atop the roof of the New Haven car where the heat is dissipated to the atmosphere.

Passenger comfort is also designed into the New Haven cars. New Haven commuters will travel in air-conditioned comfort and are protected by special two-pane windows, including an outer pane of unbreakable GE LEXAN® sheet.



100-05

New York's Ronan starts first New Haven car through production

Dr. William J. Ronan, chairman of the New York Metropolitan Transportation Authority, recently started the first New Haven commuter car through production at the dedication of General Electric's new rapid transit and commuter car facility in Erie, Pa.

Said Dr. Ronan at the ceremony, "We are optimistic that . . . (today's event) is a forerunner of things to come: More cars and better, more efficient rail systems backed up by an industry that can deliver the goods. We salute the debut of this new Erie facility and look forward to the first New Haven cars to roll off the assembly line. It will be another proud day for us both."

The need for balanced transportation

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GENERAL ELECTRIC

Circle 9 on coupon page 49

Nationalization big topic at p.r. meeting

For breadth and depth and variations in opinion, it would be hard to beat this year's conference of the Railroad Public Relations Association.

Over a three-day period, railroad p.r. officers delved into everything from the threat of nationalization to the future of Amtrak, from the need for new rail labor law to the development of continuing programs to build public support for legislative change. And as for variations in opinion:

—Amtrak's vice president-marketing, Harold L. Graham, told RPRA that "The positive aspects of Amtrak are beginning to show, and I'm certain we will be able to prove to the prophets of doom that the American public is anxious and ready to support in every way possible an American rail passenger system equal to or better than any of the foreign rail systems." On the other hand, ICC Vice Chairman Robert C. Gresham declared that "The results of the first year of passenger operations by Amtrak [would not] tend to convince anyone that nationalization, or a facsimile thereof, is the answer" to solving rail problems. Commissioner Gresham went on to observe that the Federal monies flowing into Amtrak might better be given to the railroads for freight-service improvement.

—Nobody spoke in favor of nationalization, and the Commissioner went so far as to say that "Nothing could be more detrimental to America than the nationalization of even a single railroad," because of the domino effect such action would likely have.

But there were differing viewpoints on how to combat a move toward nationalization. Dr. Albro Martin, American University professor and historian, suggested that railroads "prepare a detailed blueprint of a single public corporation embodying all forms of transportation" and then mount a p.r. drive to show "just why this step may very soon become necessary, how great the cost to the public will be and how the cost will grow without limit as the years pass. . .When our national leaders realize what a hot potato is about to be dropped in their lap, they may rush to make railroads, once again, masters in their own house."

George S. Paul, executive vice president for administration at Southern, took another slant: "I don't believe we can block a government seizure of the railroads by battling nationalization per se. To pursue such a course is to keep the subject constantly in the public mind and perhaps inadvertently contribute to the wrong outcome." Instead, said Paul, "We must convince the general public and Capitol Hill that railroads are not only essential to the economy and security of this nation, but also that they are well-managed, well-operated and determined to meet the transportation demands of the country. We must direct attention to the fact that the railroads are innovative, have been modernizing and are carrying on extensive research. We must point out that while railroads are in business to make money for their stockholders, they are operated first and foremost in the public interest."

Perhaps the biggest challenge to railroad public-relations efforts came from Southern's George Paul, who sees "unmistakeable signs that people, while still recognizing the importance of railroads, may be losing confidence in our industry's ability to manage its affairs and solve its own basic problems." He put the challenge bluntly: "In what I believe is a public-relations crisis in our industry, we are the ones who should assume leadership in combatting [the threat of] nationalization. We should be the architects of the plans to rebuild public confidence in and appreciation for our industry to the point where the public will really desire and demand that government move to restore the railroads to good health."

If ever there were need for an all-out p.r. effort, he declared, "that time is now. The very survival of the railroads as a part of our free-enterprise system could well depend upon it. As good as our ASTRO campaign is, we must think and plan far beyond this. . .In my view, it is incumbent on us to develop a concrete, industry-wide long-range and immediate program—a program designed to deal with the current situation and to have a salutary effect on the public pulse. We will always be called upon to put out brush-fires, to meet emergency situations. We can't avoid this. But at the same time, a continual flying-by-the-seat-of-the-pants operation will never crown our efforts with success."

Such an action program, Paul said, "should have specific goals and a timetable and a flexibility to permit it to be altered quickly to cope with changing conditions. But it should be precise and detailed—not a conglomeration of high-sounding rhetoric and vague generalizations. Unless it is so structured, the program will fall far short of the mark. . .Once the program is in full swing, it should be focused, steered and disciplined. Steps should be taken periodically to measure its effectiveness. I'm not talking about activity—I'm talking about results, contributions made toward the objectives, and they can be ascertained if we take the trouble to look around and evaluate them."

If evaluation shows little or no progress toward the goals, he added, "we should find out why. We should face up to the facts and, if necessary, we should revise our thinking and planning." In this context, Paul made it clear where he stands with regard to measurements of effectiveness: "I have the uneasy feeling sometimes that there are public relations directors who either ignore or do not realize that they are as accountable to top management for results as is any other officer in the company."

In other segments of the program, RPRA members:

—Free-wheeled in discussion of legislative activity at all levels of government.

—Heard up-to-date reports on fast-breaking events regarding the proposed 1972 Surface Transportation Act.

—Were brought up to date on the status of proposed rail labor-law changes by James A. Wilcox, general counsel of the National Railway Labor Conference.

—Discussed public attitudes and press-relations with a panel representing newspapers in Chicago, Washington and Roanoke.

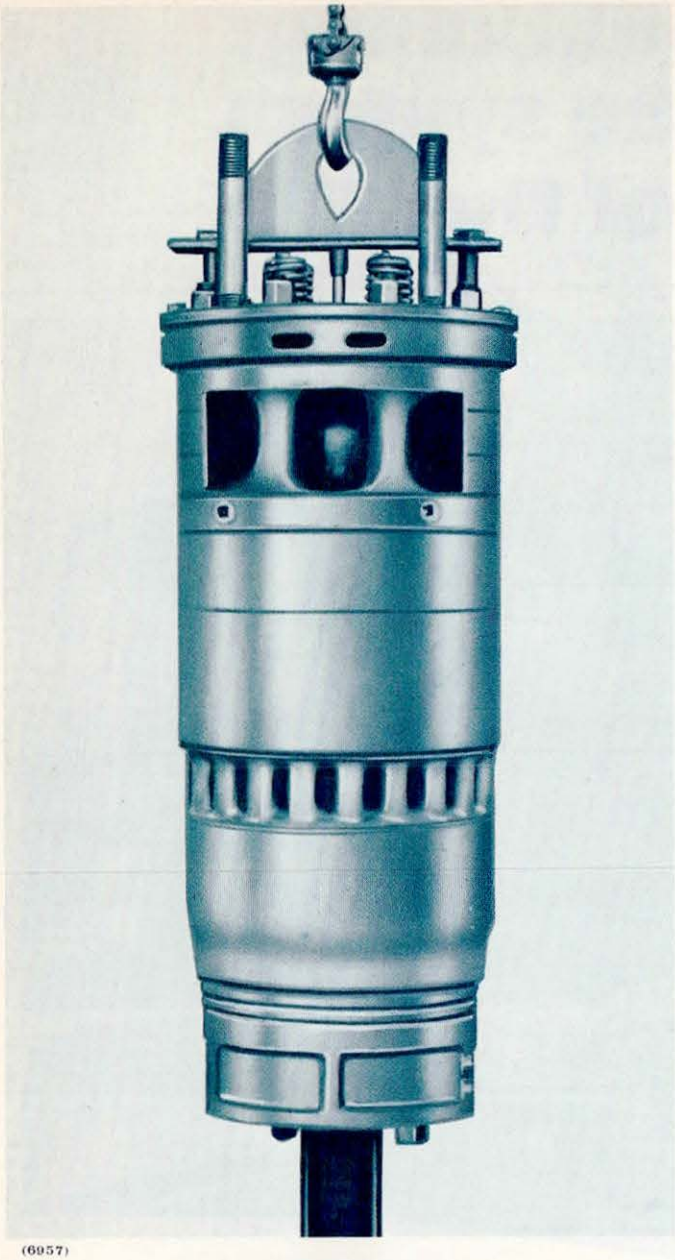
—Heard RPRA President William F. Geeslin, assistant vice president-public relations and advertising at Southern, refer to the 20th-anniversary-conference theme "1972: The Turning Point?" with optimism but also with the observation that at any "turning point" there's more than one way to go.

M. M. Pomphrey

C. G. Massoth

RPRA elects new officers

New president of RPRA is Martin M. Pomphrey, assistant to the president of Frisco, succeeding William F. Geeslin, assistant vice president-public relations and advertising, Southern. Senior vice president is Clifford G. Massoth, director of public relations and advertising, Illinois Central. RPRA members re-elected John N. Ragsdale, director of administration-public relations AAR, as secretary-treasurer, and named three regional vice presidents: Richard W. Sprague, vice president-public relations, Bangor & Aroostook; James G. Pate, director of public relations, Rock Island; and Albert S. Eggerton, Jr., senior editor, Southern.



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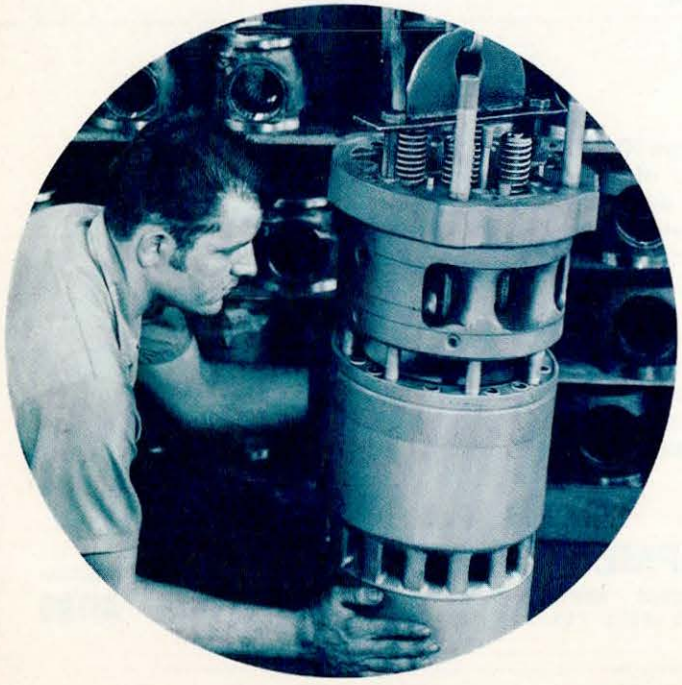

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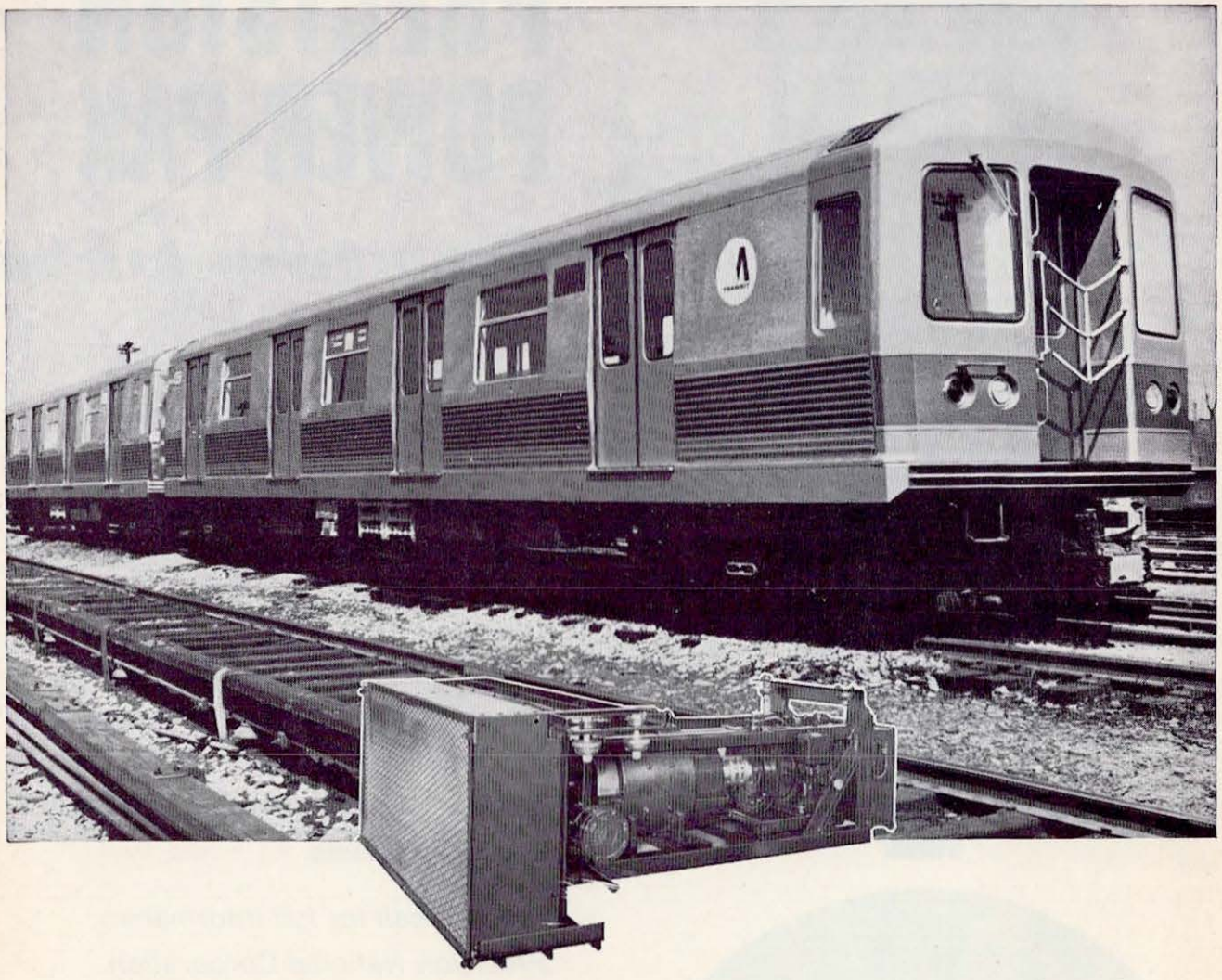

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Circle 11 on coupon page 49

Optimism rides high at transit convention

For years, the periodic get-togethers of American public transportation planners and operators have resembled nothing so much as an old-fashioned prayer meeting: a noisy affirmation of faith in things believed in but unseen. But for the 631 people who flocked to San Francisco late in June for the annual meeting of the Institute for Rapid Transit, there was solid and satisfying evidence that the hereafter may, at last, be here. The signs were these:

—In the host city, the IRT delegates saw, marveled at, and even rode (though the official BART opening is still two months away) the world's newest and unquestionably most advanced rapid transit system. The Rohr cars, now substantially debugged, clipped along at 80 mph in a near-flawless performance. IRT President William Ronan, chairman of New York's Metropolitan Transportation Authority, reminded the convention of the great debt that all American cities owe to BART and its never-cry-uncle general manager, Bill Stokes—because, as Ronan noted, the Bay area began to dig its way into the future at a time when "ecology" was a term known only to professors; at a time "when the production of autos outdistanced the birth of babies in the nation by 3 to 1. . .when California not only captured the crown for being the largest state in people population but also achieved first place in horns, exhaust pipes and autos generally."

—Jackson Graham, general manager of the Washington Metropolitan Area Transit Authority, appeared before the convention to announce that Congress on the previous day had just overwhelmingly voted to guarantee $1.2 billion in revenue bonds. "The last major legislative hurdle is now passed; construction of a $3-billion, 98-mile system is assured," the jubilant Graham told the meeting.

—In his own presidential address, Ronan announced a grant of $88.5 million by the Urban Mass Transportation Administration to New York "to help build our new Second Avenue Subway and purchase several hundred new cars." (It was later learned that an order for around 750 new cars would be placed soon after midyear with Pullman-Standard, with an option for more than 200 additional cars—a long-awaited piece of good news for the sizeable contingent of component manufacturers present.)

—Mayor Sam Massell of Atlanta took the podium to describe another major victory for mass transport vs the auto: Atlanta's recent decision to build nine miles of subway rail, 16 miles of elevated rail, 25 miles of surface rail, 14 miles of exclusive busways, all complemented by 1,500 miles of surface bus routes, a $1.3-billion capital package.

—Representatives of other cities—among them, Baltimore, Buffalo, Honolulu, Houston, Los Angeles, Minneapolis, St. Louis, Miami—were present to talk about their own fast-moving plans.

—And, to help make it all possible, UMTA Administrator Carlos Villarreal told the delegates that UMTA was about to embark on its first "billion-dollar year—and this is only a beginning."

So the mood in San Francisco was generally one of exuberance. But no effort was made to gloss over the problems that continue to confront the transit industry. Worries about an assured flow of capital funds—and soaring operating deficits—still nag operators. Michael Cafferty, chairman of the Chicago Transit Authority, was among those who addressed himself to these areas.

BART PREVIEW highlighted IRT meeting.

"The biggest question that remains to be answered in Washington is how to assure the transit industry that an adequate flow of Federal funding will be forthcoming on a continuing basis," said Cafferty. "We in the transit industry believed that, through the action of Congress, we had an agreement for this assurance under the five-year contract provisions of the 1970 Act, but that agreement in effect was tossed to the winds by the Office of Management and Budget.

"Recently Secretary Volpe proposed that the transit industry share in the Highway Trust Fund, the source of earmarked, assured funding for highway construction. Many of us believe that this proposal is unrealistic. I would not feel very sanguine about the ability of the transit industry to compete with the highway people in any such scrap for funds.

"In my opinion the only sure way to assure the transit industry of the Federal funding needed for improving all transit systems throughout the country would be the creation of a special Transit Trust Fund."

As for operating aid, Cafferty recalled that the Senate has passed—and a House subcommittee has backed—a bill calling for an outlay of $400 million a year for the next two years for operating subsidies.

There was wide agreement that for the San Francisco meeting IRT Executive Vice President Robert M. Coultas and Program Chairman Samuel W. Madeira, assistant vice president of St. Louis Car, had put together the best agenda ever. And nothing on the program scored more highly with the listeners than an unusually candid confrontation between the men who build transit cars and those who design and/or buy them.

Speaking for the builders were N. John Beck, vice president-transportation systems, Rohr Industries; Elwyn T. Ahnquist, president, Pullman-Standard; Edmund Van Claxton, general manager-transit systems, General Electric; and Thomas R. Remington, group vice president, General Steel Industries. They took the position generally that carbuilders would do a far better and less costly job if given functional rather than detailed specifications.

Ahnquist seemed to sum up the position of the builders when he outlined factors that ought to be considered "to improve the value received for the value paid in buying transit vehicles."

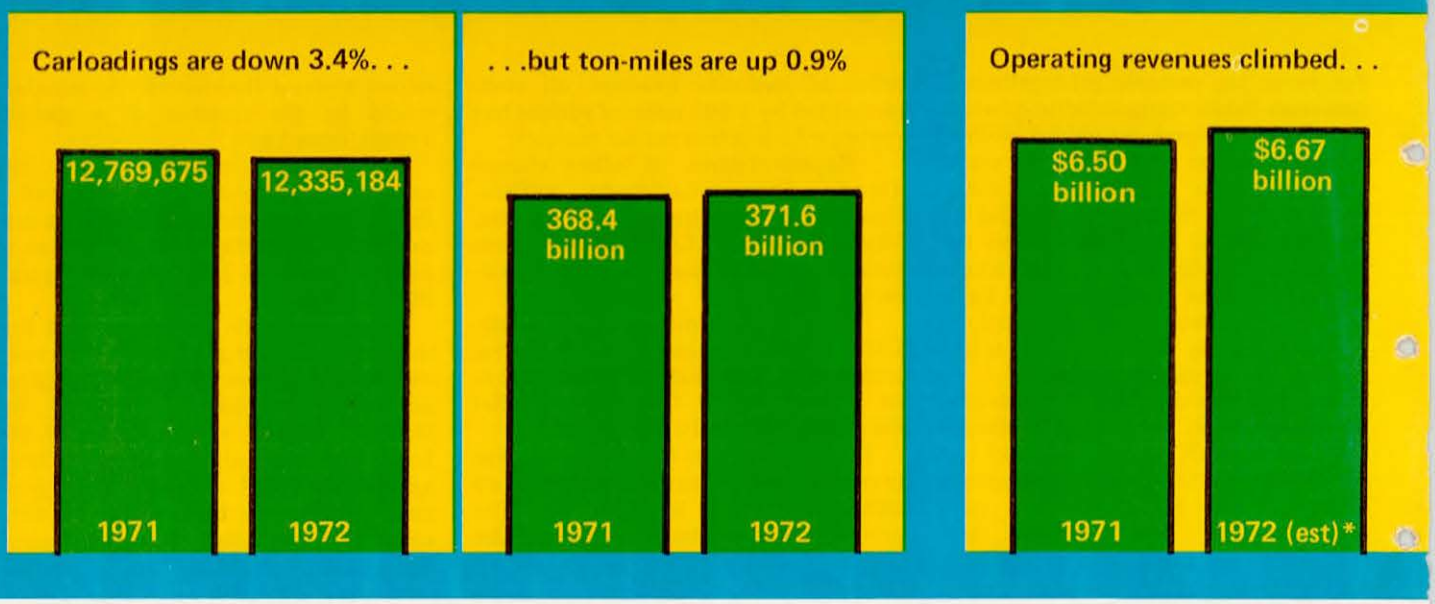
"First, specifications would be written with performance in mind. Let's leave the nut and bolt details on how to achieve that performance up to the knowhow of the carbuilder and his subcontractors.

"Second, the contractual portion of the specification should be written as a two-way street giving the manufacturer both the freedom and the incentive to improve designs and to use his ingenuity.

"Third, reasonable delivery times should be allowed for new designs requiring extensive engineering, research and development.

"Fourth, funding should be considered for prototypes and extensive technical proposals required for new designs.

"Finally, we should continue to strive—as some authorities have—for standardization, whereby manufacturers could offer a design to more than one operating property. Such standardization would encourage both heavier investment in mass production techniques and over-all product improvement on an economical basis."



Railroads chart a steady first-half

On balance, railroads have had a good year so far, and the second half looks even better. One leading industry economist told Railway Age last week: "If the economy steams right along, and picks up a little more, we should have a pretty good bulge in second-half traffic; and ton miles should be up 3% to 5% for the year as a whole."

This will mean all-time record traffic and revenues—and net earnings about equal to the $354.5 million posted in 1971, despite sharp increases in labor costs.

The year has been less kind to railroad equipment suppliers. While official forecasts continue to call for a substantial increase in capital expenditures over last year's modest levels, railroads so far have been slow to order new equipment. For one thing, many carriers have actually had a surplus of cars during a period of sluggish traffic that only now is beginning to pick up; consequently they have been under no real pressure to order new rolling stock. Perhaps more important, they have been waiting to see what kind of equipment-financing aid, if any, Congress will offer. Within recent days, both houses of Congress have made important moves on equipment legislation, and the carbuilders—along with the hundreds of component suppliers whose fortunes are tied to carbuilding—are optimistic for a substantially better second half.

● **Traffic and revenues.** While final figures won't be available for another month or so it now looks as if Class I railroads will close out the first half with net railway operating income about equal to last year's $395 million, and net (ordinary) income at a slightly lower level than '71's. (Net is expected to be down due to slightly higher rents, and a decrease in "other income"—the latter due to changed methods of reporting by some western roads.)

In this year's first quarter, revenues were up 2.3% over the 1971 quarter, on an increase of around 1% in ton miles. First-quarter earnings were up impressively compared with the previous year's quarter, which railroads refer to as a "rock bottom" period.

Second-quarter 1972 revenues are expected to be around 3% higher than those of the comparable 1971 period, but the improvement in net income will be far less impressive, on a year-to-year comparison basis, because second quarter 1971 was a relatively good period—the best second quarter, in fact, since 1966.

The biggest improvements in traffic and revenues have come in the South and the West; the East remains offstride. In the first quarter, the East had a 3.6% drop in revenue ton miles; the South was up 1.9% and the West was up 4%. One reason for the poorer eastern performance was disappointing steel traffic.

Southern Pacific, whose net income topped $100 million in 1971, a record, is now reporting a further improvement, and expects it to continue. Burlington Northern also reports rising revenues, reflecting "the upswing in the national economy."

But Penn Central, despite service improvements which have significantly trimmed its losses, is still waiting for the expected boom to materialize; carloadings are down and revenues are below earlier projections.

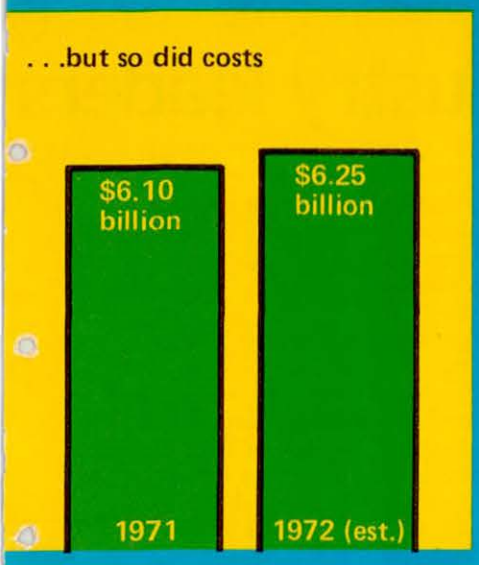
● **What's ahead.** For the industry as a whole, this year's second half seems certain to be an improvement over the 1971 period. Railroad, coal and dock strikes depressed revenues and earnings in last year's second half. No such trouble is now on the horizon. Meanwhile, there is a discernible pickup in the general economy which is expected to strengthen as the year progresses.

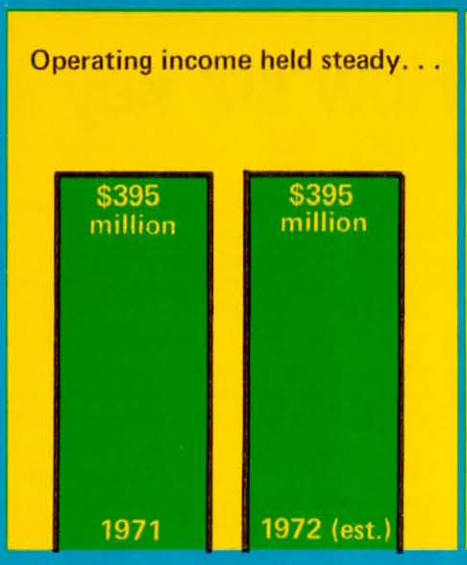
Right now, the second half is clouded by two big question marks: (1) Will the Ex Parte 281 increases finally be authorized? (2) Will the Pay Board permit the 5% wage increases to go into effect as scheduled on Oct. 1?

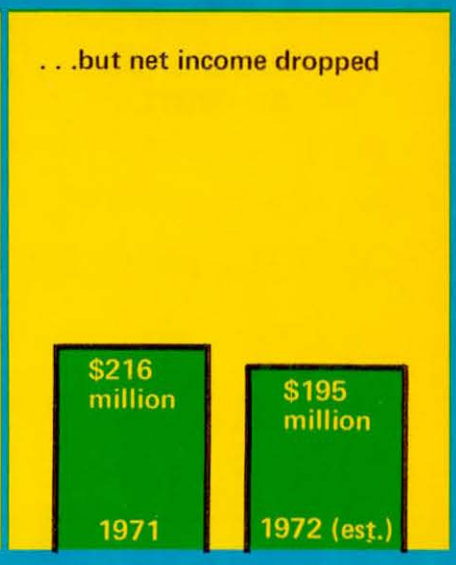
Ex Parte 281 provides for selective rate increases averaging about 4%. These increases would yield extra annual revenues of around $200 million.

The Oct. 1 wage package, if approved, will cost the carriers around $300 million per year. As of last week, no application for Pay Board approval had been made but one was expected momentarily. Which way will the Pay Board move? One observer close to the scene says: "Personally I'd bet the increases will be grumblingly approved. I'm reminded that in the UTU case the board did, by implication, indicate that it would approve the increases provided that contracted-for rules changes were being made and productivity was being improved. There is of course little, if any, productivity increase contemplated under most of the rest of the agreements."

● **Labor.** With approval of a new agreement by the Sheet Metal Workers' Inter-







*All estimates are for six months unless otherwise noted.

look for a pickup

national Association, there ought to be a period of relative quiet at least for the rest of the year at the national level.

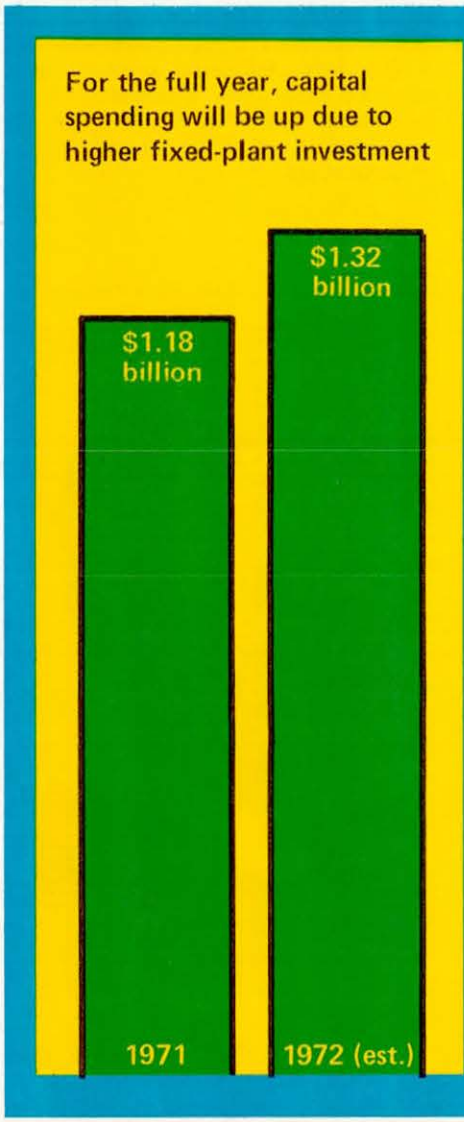
There will be, of course, continuing work locally to implement changes covered by the agreements with UTU and BLE.

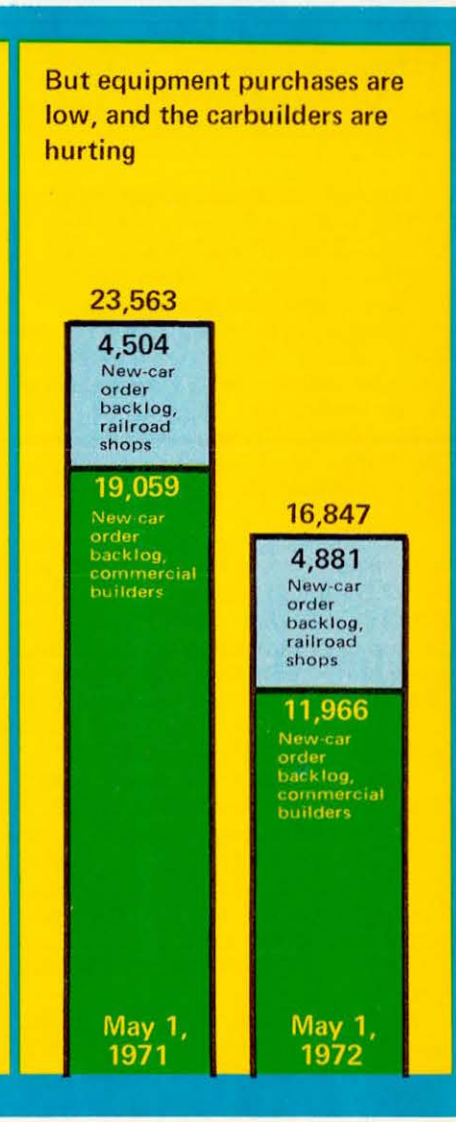
As for the fireman manning situation, hope was being expressed on both sides last week that an agreement would come at about midyear, ending the battle that began in 1959 and that has been going on in one form or another ever since.

● **Capital investment.** In iffy times like these, railroads are slow to commit their limited resources to capital improvements. Yet most economic forecasters, both within and without the industry, are predicting that 1972 capital expenditures will exceed actual 1971 expenditures by 12% to 13%.

Under present capital budgets, the increase will come mainly from stepped-up roadway and fixed plant investment. The higher proportion of funds earmarked for roadway improvements derives not from the new Federal track standards (whose implementation will be charged to operating, not capital, accounts) but from the realization that, as one railroad officer puts it, "we can no longer run today's equipment on yesterday's track."

Rolling-stock orders will be at lower levels than in 1971, according to most present forecasts. But that could change overnight—and with it the whole capital investment picture—if Congress, as now seems likely, approves equipment-financing aid on terms acceptable to the carriers.





RAILROADS AT MIDYEAR

How six key industry leaders

Stephen Ailes: AAR

For the industry:
High volume, low profit

For the American railroad industry, 1972 probably will mean a continuation of the paradox that has become a familiar experience in recent years—high tonnage volumes and low earnings.

Estimates of freight traffic in the first half of the year indicate that ton-miles will run about 1 percent ahead of the record-high first half of 1971. And, over the full year, 1972 could see the traffic figure climb above the previous record of 768 billion ton-miles in 1969.

This projection assumes that the present trend will continue, that there will be a continued pickup in economic activity and that 1972 will not be marred by the strikes and business uncertainty that depressed volume in the last half of 1971—a number of assumptions, to be sure, but all well within the realm of the probable.

However, even if this record is set—along with a corresponding record in freight revenues—the industry's net earnings will remain near the 1971 level. The main reason for this is a massive increase in costs, led by this year's increments to the wage increases provided for by agreements concluded last year.

The 2.5 percent freight surcharge instituted in February is still in effect pending a decision on the selective rate increases which the industry proposed to replace the surcharge. These would average about 4 percent.

Even if granted, however, the increases would provide only an estimated $200 million more in annual revenues—not enough to cover more than a fraction of past cost increases, let alone the $300 million per year called for by the wage increase scheduled for October 1.

A brighter aspect of the first half of 1972 was the conclusion of labor agreements with the Firemen and Oilers and the Sheet Metal Workers and the settling of such thorny issues as health and welfare benefits—even though at substantially increased costs.

The prospect of true labor peace during the second half of the year is very good.

Of particular interest in the latter portion of 1972 will be the fate of key legislation affecting the industry such as the pending Surface Transportation Act and proposals for loan guarantees that would help railroads acquire badly needed rolling stock. Enactment of this legislation would pave the way for revitalization of the industry in the years to come.

B.F. Biaggini: Southern Pacific

"I expect business to continue to improve. . ."

This year to date has been a good year for Southern Pacific, as years are measured in the railroad industry. We are coming off a record year in 1971, in which our net income exceeded $100 million (by generally accepted accounting methods) for the first time in history, and we have experienced an improvement of business in the first half of this year.

I expect business to continue to improve through the remainder of 1972 and beyond. We are on the threshold of seeing some real economic growth in the United States during the next several years, and Southern Pacific is bound to reflect that growth.

I must also say, however, that railroads cannot be truly efficient and truly prosperous until we correct two great problems: the one of a national transportation policy which perpetuates excessive regulation and discriminatory legislation; and the other, which is our need to increase railroad productivity.

We urgently need from Congress passage of legislation embodying such reforms as speedier rate revisions and abandonment procedures; assistance in grade crossing protection; assistance in financing of equipment and others.

And also badly needed is a cooperative effort between the industry, labor and regulatory bodies to streamline our activities so that we are all working in the public interest to build a strong transportation system. Bold and prompt action is needed to restore the original sound concepts of Interstate Commerce regulation in this country, and to encourage railroads to develop and modernize, so they can truly attain their inherent efficiency.

L.W. Menk: Burlington Northern

Burlington Northern's revenues and earnings so far this year reflect the upswing in the national economy.

Transportation revenues of $250,339,000 for the first quarter of 1972 were $10,637,000 over the first quarter of 1971. First-quarter consolidated net income was $7,035,000, compared with first-quarter net income of $1,748,000 in 1971.

Major contributions in the first quarter of 1971 came from coal, grain and lumber. The demand for low-sulfur coal found along BN lines in Montana and Wyoming continues to increase. First-quarter coal revenues were $18,207,500, up $2,288,000 over the same period last year. Future prospects for western coal are bright and revenues

now size up '72

from unit coal trains are expected to more than double in the next five years.

Grain revenues for the first quarter of 1972 are up and for the second half of the year will depend largely on growing conditions and the movement of grains for export.

The increased activity in housing starts which began late in 1971 has continued through the first quarter of 1972 and resulted in a substantial increase in lumber traffic and revenues. A strong market for homes and construction is expected to continue throughout the year.

The railroad industry is in need of legislation to relieve it of unnecessary regulatory restraints, and to improve its ability to finance improvement programs and equipment purchases. We are hopeful the Hartke-Adams bills will receive favorable Congressional action.

Agreements negotiated nationally between the railroads and the Brotherhood of Locomotive Engineers and the United Transportation Union contain a break-through in the application of some work rules which will, when fully implemented, enable railroads to speed up service.

National agreements provide for a further study of changes in work rules. We are optimistic that the study committees will be able to reach agreement on further changes in work rules which will be beneficial to the railroads and their employees and customers.

"Earnings and revenues reflect the upswing"

W.H. Moore: Penn Central

"We have restored top quality service"

Our year so far has been quite encouraging in some respects but disappointing in others. We have had significant increases in traffic and revenues from such markets as grain and piggyback, but on the other hand, traffic has not come up to expectations in such "bread and butter" areas as steel and coal.

Our most gratifying accomplishment has been recognition throughout the transportation industry of our restoration of top quality, reliable service.

We are making good progress in recovering our share of the Eastern railroad traffic market (36.4% now vs. 33.7% in 1970). But the still-diminishing Eastern market makes our goal of building greater volume increasingly difficult.

Our freight revenues so far this year are a little ahead of the same period last year, yet they are slightly below our projections. Our carloadings for the first five months of the year are about 1% less than for the same period last year.

We are extremely hopeful that both revenues and carloadings should improve during the second half of this year if there are no work stoppages or slowdowns in production in key industries we serve, and if the Interstate Commerce Commission moves promptly to authorize pending freight rate increases.

As for the situation in Washington, I am alarmed by the lack of real progress on this front. With the exception of a few Members of both Houses, the Congress seems generally apathetic to the urgent needs of our industry. Progress is agonizingly slow on track abandonments and resolution of work rules issues—two programs which are vitally essential to Penn Central's reorganization. This situation is especially perilous to Penn Central, and we are pressing for better results in Washington during the last half of this year.

From the standpoint of operations, we have cut our losses for seven straight months, compared with figures for the previous year, despite inflation and higher costs of labor and materials.

In summary, we have the service and the operating potential—what we need most is a boom in the national economy.

Ian D. Sinclair: Canadian Pacific

"We expect appreciable improvement in our net"

The Canadian economy has been undergoing a general upswing which has had a positive influence on traffic. There are notable improvements in lumber and plywood carryings, automotive products and livestock and fresh meat movements. Container carrying continues to show the highest rate of

expansion while coal movements for export to Japan have increased significantly with the improvement in Kaiser coal production and the start-up of fording coal operations. Although newsprint movements are down, this has been offset by increases in other pulp and paper traffic.

CP Rail expects an appreciable improvement in net earnings in the first half of 1972, despite the disruptions and clean-up costs of an unusually bad winter. The improvement in revenues and earnings in the second quarter, over 1971, is expected to be significantly better than the first quarter in which net railway earnings were $7.2 million (up $238,000 from last year) and freight revenues were $163.3 million (up $10.5 million from last year).

Partial payments from the Canadian government for unprofitable service in respect of claims made for 1970 and 1971 will more than offset this year's reduction in payments according to the National Transportation Act formula. A preliminary report to the Canadian Transport Commission on a joint CN-CP Rail study for rationalization of Canadian transcontinental passenger service is expected in September.

Freight rate increases averaging six percent were applied during the first quarter on both competitive and non-competitive traffic moving within Canada. The increases were put in to assist in covering added expenses resulting from higher wages and material prices.

For the second half of 1972, CP Rail expects improvements in revenues and earnings to reflect the continuing buoyancy of the Canadian economy. As a result of large government grain sales overseas, the Railway is gearing to handle significantly higher volumes of wheat and other grains. Container and piggyback trailer traffic is expected to remain the largest growth sector and continuing increases in coal, lumber and automotive product carryings are anticipated.

Nils A. Lennartson: RPI

Certainly the first six months of 1972 have been difficult for many member companies of the Railway Progress Institute. The backlog for freight cars on order in private car shops is the lowest in years—only 11,063 cars on order according to the most recent figures. It has been estimated that it will take some 100,000 new freight cars a year for our railroads to keep pace with modernization of the fleet and a growing economy. To do this we should have a car backlog five times higher than it is now.

"Suppliers are looking for better times ahead"

The fact that railroads have not undertaken more capital investment in the recent past is due to three main factors; first, the generally low state of the economy; second, the uncertainty about the fate of major railroads which have gone into reorganization and third is the uncertainty about what sort of railroad financial assistance might be adopted by the Congress in Washington.

As of this writing there are strong indications that some form of Federal loan guarantee insurance may become law before the Congress recesses for the Republican convention in August. In addition, other legislation such as relief from tax discrimination, easier abandonment and provision for better information systems will undoubtedly help the railroads, both in cost saving and in better efficiency.

If favorable Congressional legislation is forthcoming in the next few weeks—and RPI is fervently convinced this can happen—then the remainder of this year should see an improvement in railroad buying. This is necessary to preserve the work forces and the production lines of those railway supply companies who are now facing serious trouble. This is important because a strong railroad system cannot exist without a strong railway supply industry providing the essentials which the nation's railroads must have.

While recent times have been difficult for many railway supply companies, the RPI looks for better times ahead—if expected breakthroughs materialize.

Equipment financing wins ground in Congress

Efforts to wrench major railroad aid legislation out of Congress will have to go on until the closing days of this 92nd Congress's life, but signs have never been better that such legislation ultimately will be passed.

—In a surprise move June 23, the Senate Commerce Committee cleared the Rolling Stock Financing and Utilization Act of 1972 (S. 1729). It would create a Federal Railroad Obligation Insurance Fund to guarantee loans up to a total of $2 billion to individual carriers. If, after three years, the ICC determined that a car shortage still existed, and that there had been no substantial increase in car utilization, a Rolling Stock Authority would be created—subject to congressional approval.

Railroads have strongly opposed the creation of any such authority, the so-called "Fastcor" approach, arguing that it would represent an unworkable "Amtrakization" of the freight car fleet. Instead, railroads have sought loan guarantees to individual carriers. The decision of the Senate Committee thus represents a major victory for the railroad position. The "iffy" provision for a Rolling Stock Authority at a later date is widely regarded as a face-saving device for the Fastcor side.

—Just 24 hours before the Senate Committee's action, the House Aeronautics and Transportation Subcommittee came up with a new version of the Surface Transportation Act of 1972 (H. R. 11207)—actually, a composite bill embodying various proposals advanced during the last year by both the regulated surface carriers and the Department of Transportation (RA, Nov. 29, 1971, p. 14). The House bill provides for a $2-billion Railroad Equipment Obligation Insurance Fund; and another $2 billion in loan guarantees for all surface modes (railroads could use this fund only for fixed facilities improvements).

Gone from this composite bill are highly controversial Administration proposals for freer entry into trucking and for rate reform.

NEW VERSION OF SURFACE TRANSPORTATION ACT OF 1972

Of the two bills, the House version is far more comprehensive. Both provide for equipment loan guarantees, and for $35 million of Federal aid in setting up a national car information system. But the House bill comes to grips with many other problems facing regulated carriers. It embraces provisions of many separate bills that command a broad basis of support from regulated surface modes, the Administration, shippers and labor. Prepared under the aegis of Representative Brock Adams (D.-Wash.), the bill would:

1. Create a Revenue Financing Division within DOT. This agency would provide Federal guarantees for 15-year loans to regulated surface carriers, such loans not to exceed a total of $2 billion. For rails, such loans could cover track whose usage exceeds 5 million ton-miles a year, signals, switching and terminal facilities, communication and power systems, repair shops; bridges, tunnels, and other surface structures, but not rolling stock.

This is similar to a proposal originally in the carrier-backed Surface Transportation Act proposals. Originally, the division was to be under the Treasury Department.

2. Create a Federal Railroad Equipment Obligation Insurance Fund administered by DOT which would insure interest and the unpaid balance of $2 billion in equipment paper. Fund would be financed by a 1% premium on the principal outstanding. Financing for rebuilt cars may not exceed one-third of the total number of all cars financed under the Fund.

Retained from the DOT proposals. May apply with addition of appropriate language retroactively to obligations made after June 1, 1972.

3. Authorizes $35 million for a national rolling stock scheduling and control system devised by rails themselves.

4. Allows ICC to preempt intrastate rate jurisdiction from a state regulatory body if the latter hasn't acted on a rate proposal within 120 days.

Still another DOT proposal, not liked by NARUC.

5. Bans discriminatory state and local taxation of carrier property.

A proposal backed by both carriers and DOT.

6. Facilitates ICC procedures for abandonment of unprofitable branch lines.

A largely redrafted section, though contained in both carrier and DOT bills. In general permits rails to abandon track on 45 days notice to ICC. If investigated, Commission must render a decision in six months but cannot order a line continued if traffic on it does not produce revenue equal to variable costs of service. Contains stringent new labor protection clauses. Also directs rails to identify track on which 35 or less carloads per mile have originated or terminated during previous year.

7. Orders ICC to identify traffic moving at rates less than variable costs of service, then to order rates raised to level of variable costs. Directs ICC to develop procedures for interim rate level adjustments that can be awarded rapidly pending findings of major rate ex parte investigations. Extends rate publication to water transport of dry bulk commodities.

An amalgamation of carrier and DOT proposals, significantly establishing a variable costs "floor" to rates but omitting the DOT-proposed "ceiling" of 150% of fully allocated costs.

8. Rate Bureau modernization. Requires rates to be administratively disposed of within 120 days by carrier bureaus, prohibits single line rate voting by rail rate bureaus, and directs an ICC investigation of rate bureau practices.

The scant remnant of DOT's proposal to remove antitrust exemption from rate bureaus. In general, seeks merely to enforce uniform practices among bureaus.

9. Repeals that portion of Section 22 of the Interstate Commerce Act which gives lower rates to government.

A DOT proposal, and long overdue, say the carriers.

10. Directs an ICC study of "restrictions, exemptions, and/or limitations" on commodity carriage.

A polite way of shelving DOT's proposal to permit freer entry into trucking.

11. Gives ICC power to prescribe uniform cost accounting methods, especially those which would ascertain methods for locating variable costs in abandonment and minimum compensatory rate proceedings.

12. Permits ICC to submit budgets directly to Congress.

Once full House Commerce Committee approval can be obtained for the latter bill, the stage is set for up-or-down floor votes on the two bills in the respective houses of Congress sometime after Labor Day. There is no necessity for further time-consuming public hearings on any proposal.

Rail lobbyists expect major portions of the composite package to pass, especially (1) some kind of loan guarantees for equipment acquisition; (2) ban of discriminatory state and local taxation; (3) Federal assistance to the tune of $35 million for a national rail scheduling and control system; (4) facilitation of branch line abandonments. There is also the prospect of another bill, now before the respective Public Works committees, becoming statute, which would direct 5% of Federal highway-aid monies to grade-crossing improvements.

● **The art of the possible.** Real heros of the story on the House side are Rep. Brock Adams (D-Wash.) and his legislative assistant, Jacque Depuy, who persevered in getting the regulated surface modes, shippers, labor, and the Administration to compromise on widely differing bills for transport aid and changes in regulation. A year ago such a compromise seemed impossible: At that time an aide to Sen. Vance Hartke (D-Ind.), chairman of the Senate Surface Transportation Subcommittee flatly declared:

"There isn't a hellava lot to compromise."

In recent days, however, that compromise was hammered out with dazzling speed, all parties obeying Lord Acton's injunction that "Politics is the art of the possible." On Monday, June 19, FRA Administrator John W. Ingram and DOT Under Secretary James Beggs met with Rep. Adams to recede on the Administration's more daring deregulatory proposals. On Wednesday, June 21, ASTRO General Counsel George Smathers, American Trucking Associations President William A. Bresnahan, and Water Transportation Association President John A. Creedy urged consideration of the composite bill on Senate Commerce Committee Chairman Warren Magnuson (D.-Wash.).

Closely involved in the stages of drafting were AAR President Stephen Ailes, FRA Deputy Administrator Henri Rush, AAR General Solicitor Carl Lyon, RPI President Nils A. Lennartson, and ASTRO Executive Director Richard E. Briggs.

MOVING PEOPLE

New UMTA grants for rapid transit studies

Included in recently announced UMTA grants "for technical study and planning projects, which usually lead to capital grant projects, such as the purchase of new buses and commuter rail cars" were three which specifically cited rapid transit. A $1.5-million study will be made in southern California; "perhaps the most important part of this project will be studies of rapid transit potentialities in the Los Angeles area," commented Transportation Secretary John A. Volpe. Planning of a proposed rapid-transit line between Buffalo and Amherst, N.Y., will be high on the study list for a $300,000 grant made to the Erie and Niagara Counties Regional Planning Board. UMTA is granting $250,000 to Delaware River Port Authority to increase the scope of the Authority's efforts to develop a unified and coordinated rapid transit system, with supporting modes of transit, in southern New Jersey.

SEPTA six-year capital program for $1.37 billion

A $1.37-billion, six-year capital improvement program for transit and rail commuter systems in the Philadelphia area has been approved by the board of the Southeastern Pennsylvania Transportation Authority. SEPTA plans to spend $262 million for the fiscal year ending June 30, 1973, including 144 rail commuter cars being built by General Electric and 140 subway/surface streetcars which have not yet been ordered.

Reading line being extended 1.8 miles

Work has started on a 1.8-mile extension of Reading's Hatboro commuter line to Warminster, Pa. The $1.8-million expansion is funded two-thirds by UMTA and one-third by the commonwealth of Pennsylvania and two counties. The project, scheduled for completion in December 1973, includes also electrification and station construction. Several years ago the Reading electrified its Fox Chase line under a similar program.

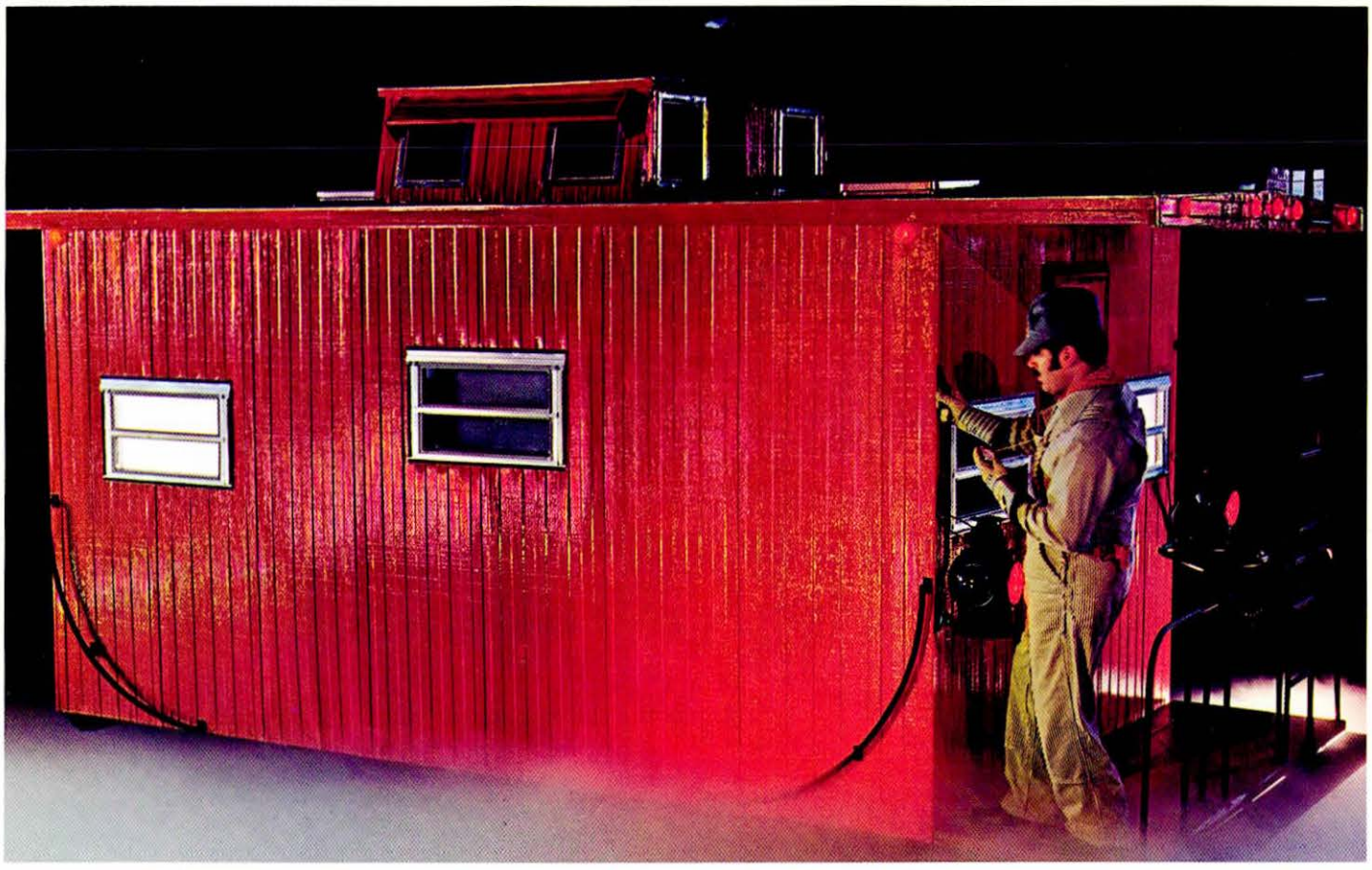
MBTA takes bids for new transit shop

A bid of $7.8 million was the lowest of four received by the Massachusetts Bay Transportation Authority for construction of a rapid-transit maintenance and repair complex in South Boston. The first phases of the project, costing $2.2 million, are already preparing the site in a former Penn Central coach yard. To be built are a 142,000-square-foot repair shop for 168 Red Line cars, a 200-bus garage, supporting facilities, and track connection to the Cambridge-Dorchester-Quincy line.

IRT publishes "Moving People Safely"

A book of safety guidelines aimed at enhancing the already excellent record of the rapid transit industry has been published by the Institute for Rapid Transit. The 166-page "Moving People Safely," first of its kind in the industry, was written to serve as a foundation for specific safety rules on individual transit systems. Dr. William J. Ronan, president of IRT and chairman of New York's Metropolitan Transportation Authority, established IRT's Passenger Safety Committee, headed by Richard D. Buck of Massachusetts Bay Transportation Authority. Seven subcommittees developed the seven chapters of operational guidelines that emphasize safety and accident prevention. The $5 paperback is available from IRT at 1612 K Street, N.W., Washington, D.C. 20006.

Did you win Shell's 1900 Caboose?



Maybe you won first prize in Shell's "Name the Products" Contest! Look inside this insert for contest answers.

Think you named enough Shell products correctly to win that one-of-a-kind replica of a 1900 caboose?

Or maybe you're one of the 15 second prize winners. If so you'll soon be the proud owner of a handsome desk set.

Win or lose, thanks for entering! We'll soon be sending a gift to *all* entrants. Right now the judges are working on the avalanche of entries that came in just before June 5th, the last official day of the contest.

Contest winners will be announced soon. In the meantime, look at the inside and back cover of this insert. Check your answers against the correct ones. These are the Shell products that will do the job best for you!

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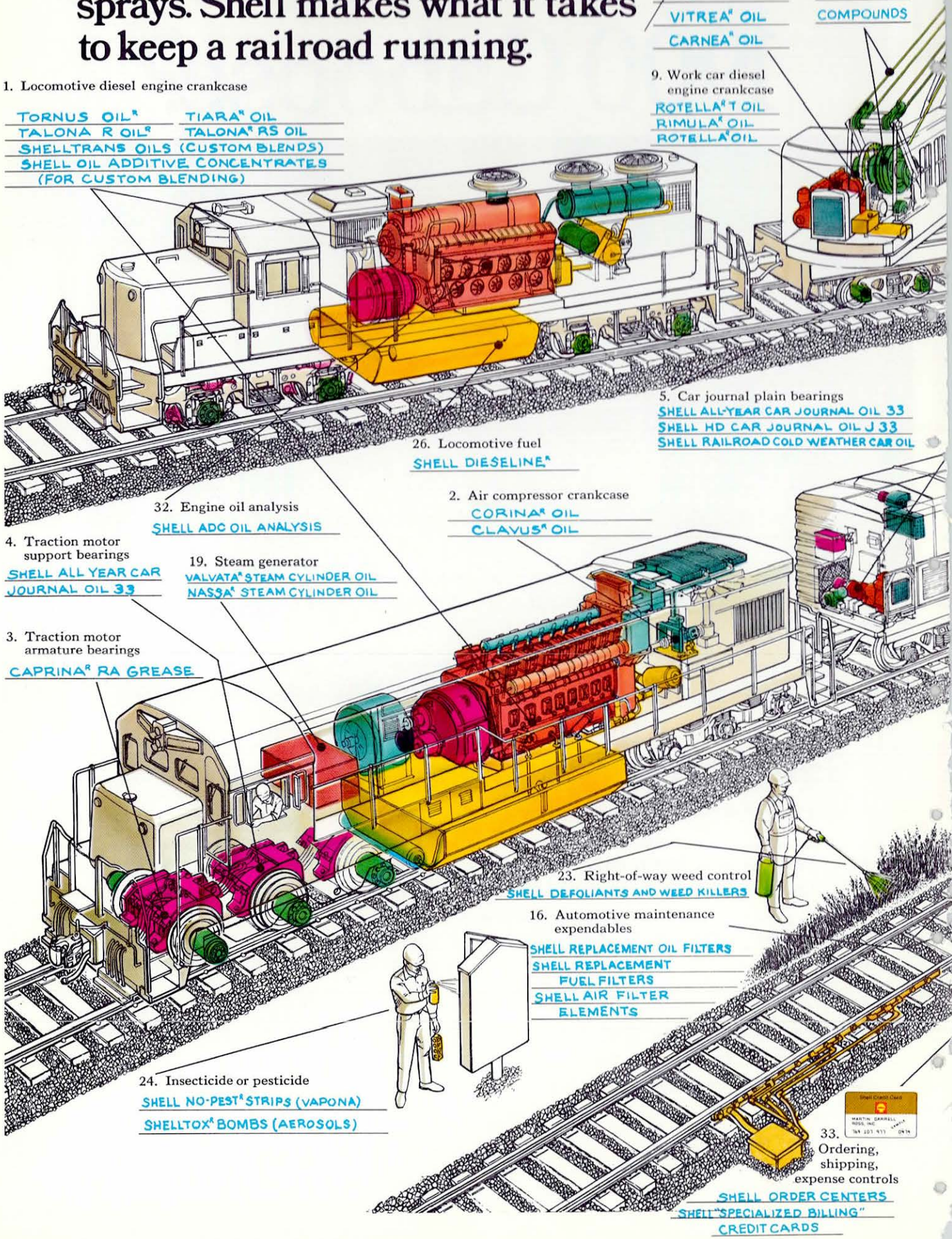

1. Locomotive diesel engine crankcase

TORNUS OIL®
TALONA R OIL®
TIARA® OIL
TALONA® RS OIL
SHELLTRANS OILS (CUSTOM BLENDS)
SHELL OIL ADDITIVE CONCENTRATES (FOR CUSTOM BLENDING)

30. Enclosed gear cases

OMALA® OIL
MACOMA® OIL
VITREA® OIL
CARNEA® OIL

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CARDIUM COMPOUNDS

9. Work car diesel engine crankcase

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SHELL ALL-YEAR CAR JOURNAL OIL 33
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SHELL RAILROAD COLD WEATHER CAR OIL

26. Locomotive fuel

SHELL DIESELINE®

32. Engine oil analysis

SHELL ADC OIL ANALYSIS

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CORINA® OIL
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4. Traction motor support bearings

SHELL ALL YEAR CAR JOURNAL OIL 33

19. Steam generator

VALVATA® STEAM CYLINDER OIL
NASSA® STEAM CYLINDER OIL

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CAPRINA® RA GREASE

23. Right-of-way weed control

SHELL DEFOLIANTS AND WEED KILLERS

16. Automotive maintenance expendables

SHELL REPLACEMENT OIL FILTERS
SHELL REPLACEMENT FUEL FILTERS
SHELL AIR FILTER ELEMENTS

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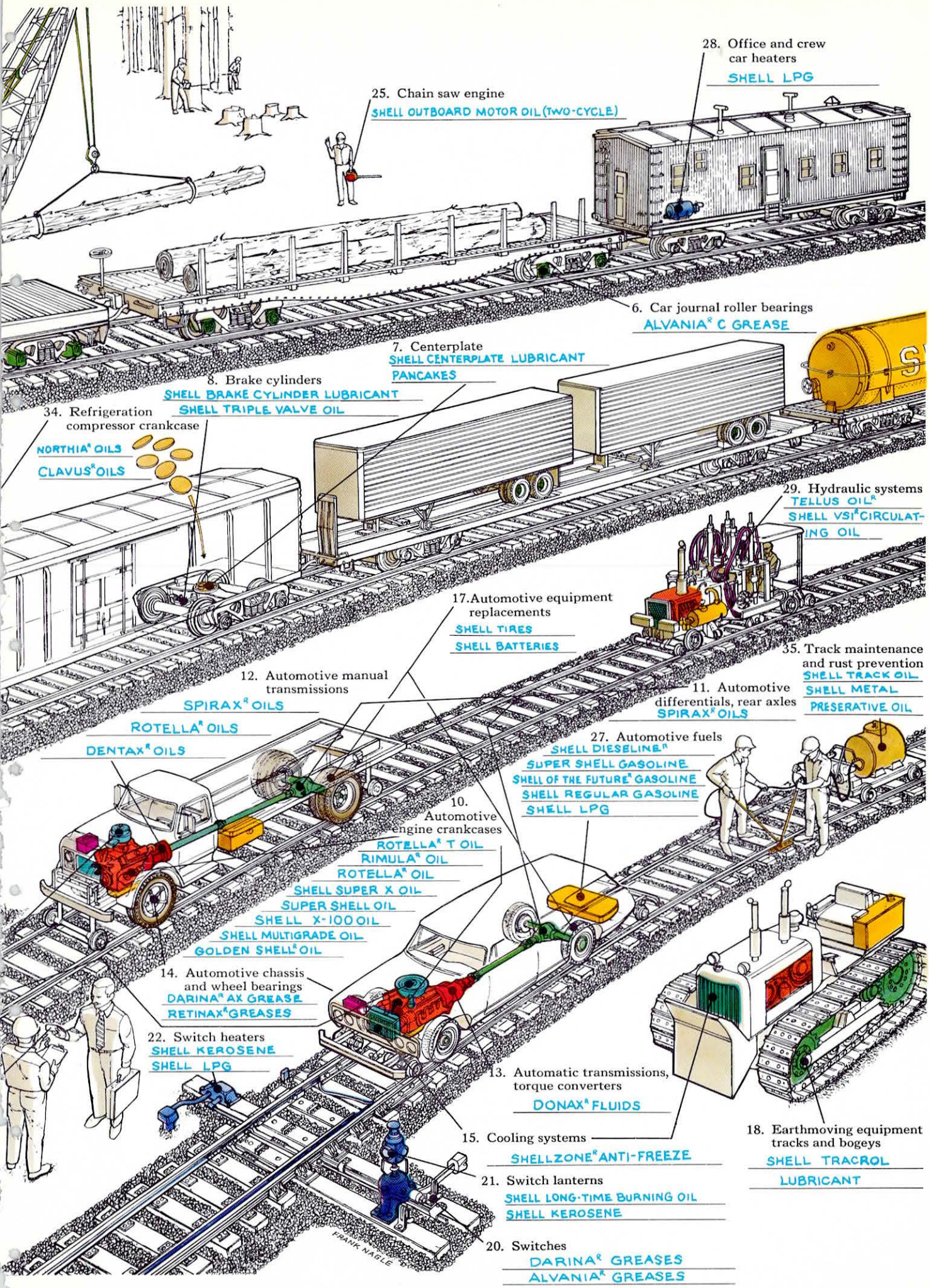
SHELL NO-PEST® STRIPS (VAPONA)
SHELLTOX® BOMBS (AEROSOLS)

33. Ordering, shipping, expense controls

SHELL ORDER CENTERS
SHELL "SPECIALIZED BILLING"
CREDIT CARDS


28. Office and crew car heaters
SHELL LPG
25. Chain saw engine
SHELL OUTBOARD MOTOR OIL (TWO-CYCLE)
6. Car journal roller bearings
ALVANIA® C GREASE
7. Centerplate
SHELL CENTERPLATE LUBRICANT
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8. Brake cylinders
SHELL BRAKE CYLINDER LUBRICANT
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34. Refrigeration compressor crankcase
NORTHIA® OILS
CLAVUS® OILS
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TELLUS OIL®
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17. Automotive equipment replacements
SHELL TIRES
SHELL BATTERIES
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SHELL TRACK OIL
SHELL METAL PRESERATIVE OIL
12. Automotive manual transmissions
SPIRAX® OILS
ROTELLA® OILS
DENTAX® OILS
11. Automotive differentials, rear axles
SPIRAX® OILS
27. Automotive fuels
SHELL DIESELINE®
SUPER SHELL GASOLINE
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SHELL REGULAR GASOLINE
SHELL LPG
10. Automotive engine crankcases
ROTELLA® T OIL
RIMULA® OIL
ROTELLA® OIL
SHELL SUPER X OIL
SUPER SHELL OIL
SHELL X-100 OIL
SHELL MULTIGRADE OIL
GOLDEN SHELL® OIL
14. Automotive chassis and wheel bearings
DARINA® AX GREASE
RETINAX® GREASES
22. Switch heaters
SHELL KEROSENE
SHELL LPG
13. Automatic transmissions, torque converters
DONAX® FLUIDS
15. Cooling systems
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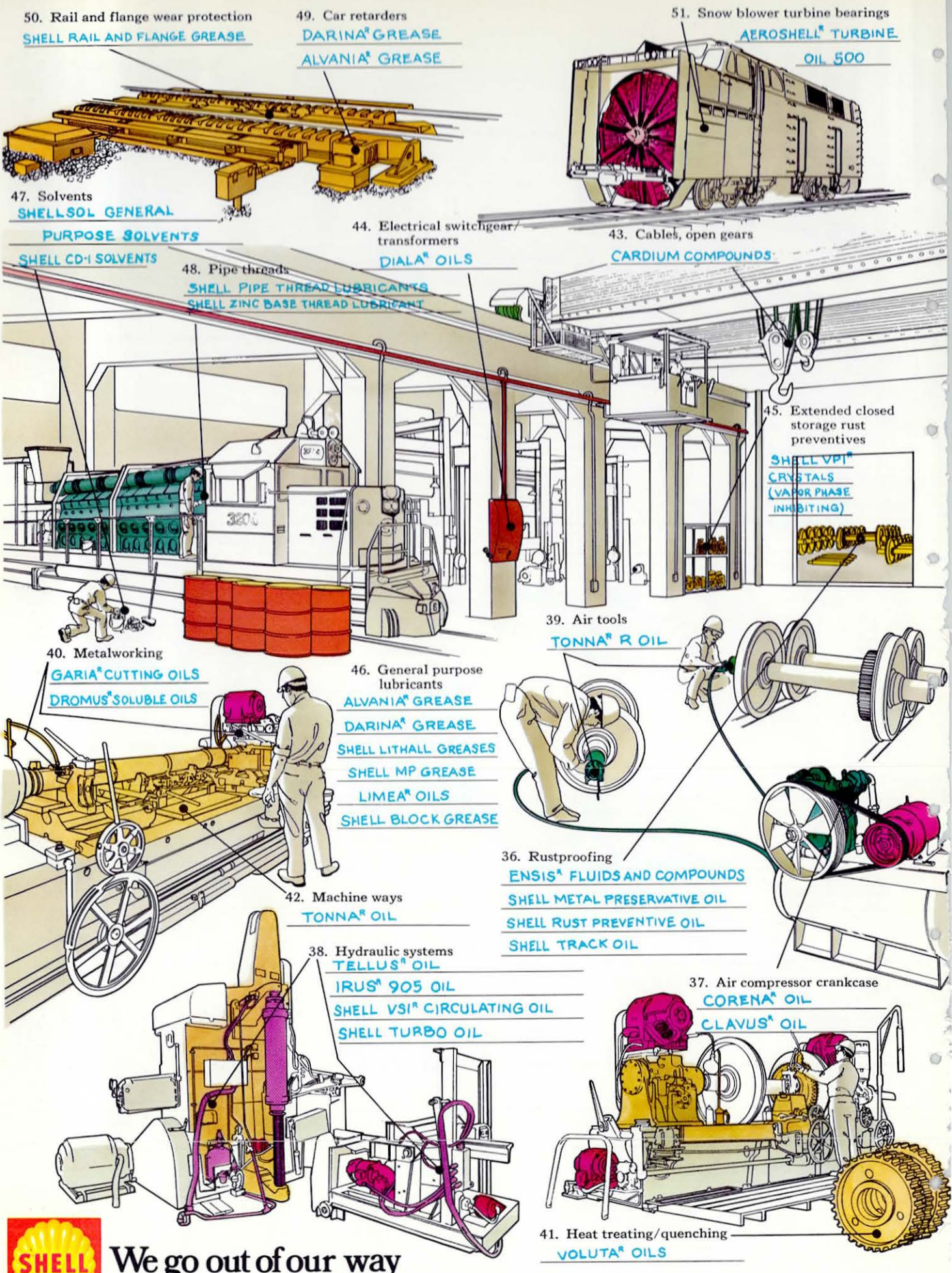
18. Earthmoving equipment tracks and bogeys
SHELL TRACROL LUBRICANT
21. Switch lanterns
SHELL LONG-TIME BURNING OIL
SHELL KEROSENE
20. Switches
DARINA® GREASES
ALVANIA® GREASES
FRANK NAGLE



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June 15, 1972

TRANSIT SHOWCASE

PATH puts it all together

The Port Authority-Trans Hudson Corp. (PATH) is marking two milestones, not one. The first is the delivery of the first glossy, air-conditioned cars in the latest PATH fleet, built by Hawker Siddeley Canada (see p. 36). The second is the tenth anniversary of The Port Authority of New York and New Jersey's takeover of the bedraggled, bankrupt Hudson & Manhattan Railroad, connecting New Jersey and New York.

The PA's takeover was marked by a multi-million-dollar facelifting that made the old operation and the new one as different as night and day. The rebuilt PATH system now carries some 145,000 people each weekday—over 70% of all persons entering New York City by rail from New Jersey.

To review all the changes, and get a glimpse of the future, Joe Asher talked to Louis J. Gambaccini, vice president and general manager of PATH, who has been a major force in the rebirth of this key urban transit system. Gambaccini, 41, has a background in public administration and served six years in various PA posts before joining PA subsidiary PATH as deputy general manager in 1962. He moved up to the top PATH spot four years later.

Q. Mr. Gambaccini, were those first years after the PA takeover rough for you?

A. They were very like the Perils of Pauline. There were times when we worried about having enough cars for service—the old H&M black cars. The motors were failing at a rate faster than we could cope with, and we went into emergency measures to increase the rate of overhaul and maintenance with outside help. The old 25-cycle power system, the signal system and the communications systems were failing.

Q. What would you call the major milestones of the decade on PATH?

A. The building of an organization—a highly competent, motivated team—to undertake challenges on a broad range. . .the rather substantial rehabilitation of a rail transit system while continuing traffic 24 hours a day, seven days a week. . .the design of a landmark transit car of attractive, individual design, incorporating the latest in technology. . .the operation of the first fully air-conditioned transit car fleet in the world. . .the renegotiation of our labor agreements—reorienting them in major respects from the obsolete ways of the past to the advanced requirements of the new system. . .the establishment of a healthy climate of relationships—a genuine mutual respect with our employees and their representatives. In ten years we've had only one labor incident which affected service to the public—and that did not result in cessation of service.

Then there was the Aldene Plan in 1967, which virtually doubled our route mileage and more than doubled the number of peak-hour passengers in our Newark service; the construction and opening of the World Trade Center terminal, the current construction of the Journal Square Transportation Center.

Q. Is there any one thing you're particularly proud of?

A. I'm proud of all those things, but if I had to pick one thing it would be the highly motivated, dedicated staff which permitted all the other things to happen.

Q. In view of the pre-PA history, how did you get the staff so motivated and dedicated?

A. Well, when we took over the railroad, the system had been through eight years of bankruptcy and many more years of dwindling financial resources and lowering of maintenance standards. We also found we had a superannuated staff.

So we moved directly to a sizable training effort for all staff and beefed up the supervisory, professional and technical staff. With retirements and other attrition, the over-all average age has declined from about 51 to 41.

Between our training efforts and the installation of all the new equipment, we jumped from the Stone Age of rapid transit to the Solid-State Electronic Age of transit development. The process of making that transition has fired the imagination and commitment of most of the staff—longtimers and newcomers as well.

Q. At what cost was all that accomplished?

A. The Port Authority commitment comes to about $170 million for acquisition and capital investment, and over $82 million of accumulated operating deficits since 1962, as reported to the ICC. The deficit was $17.8 million last year.

Q. Is there any thought of raising the fare to cut the deficit?

A. Not at the present time.

Q. How do operating costs compare with other transit systems?

A. We're not the highest or the lowest by most measures. But when you relate it to the peculiarities of our system, in my opinion we're doing well. By peculiarities I mean the short-haul, 14-mile interweaving services. Typically, three services will operate for some stretch on the same piece of track, two with 3-minute intervals—that means 90-second junction point meets.

We're reputed to have the sharpest traffic peaking of any system in the world. Nearly one-half of our weekday traffic is carried in the two peak hours. That aggravates operating costs on almost all counts—staff, demand for traction power, size of car fleet, and so forth.

Ironically, one of the things we pride ourselves most about has at times been used as a criticism of our system—that is the apparent high cost per car-mile. We're proud of the fact that we reduced our total car-miles operated, while at the same time our traffic has moved up considerably—39 million passengers last year, compared with 26.4 million in 1965.

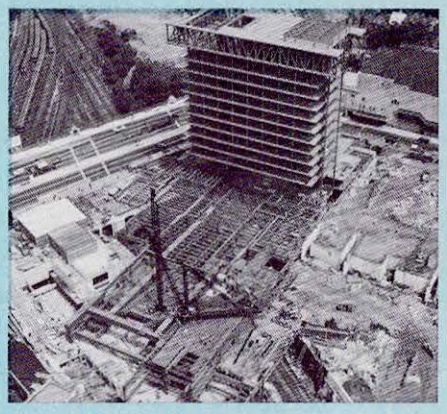
Through better utilization of equipment, through computerized schedule-making, we're able to match up the available capacity of rolling stock and train demand in a far more sophisticated way than when we took over. We are, in short, able to provide more and better service to larger numbers of passengers with fewer car-miles in each 24-hour or 7-day period; of course we are providing more cars and trains in the peak periods.

Our bad-order car ratio is under good control and our on-time performance has improved rapidly over the past several years. The 1971 on-time performance result was 95.7%.

Q. You mentioned especially sharp peaks. What lessons were learned from the staggered office-hours experiment the PA and the Downtown Lower Manhattan Association have been conducting?

A. We have had limited objectives, because the program has depended on persuasion and voluntary involvement of participating firms. Within these parameters the program has been quite successful. While it hasn't materially affected power consumption or the number of cars or staff involved in providing peak-hour service, it has materially resulted in an easing of the sharpness of the traffic peak; it has improved the over-all comfort level for

It's ten years since PATH took over the H & M Railroad. Here's PATH Vice President and General Manager L. J. Gambaccini to talk about the transformation—251 new cars (including 46 now being delivered by Hawker Siddeley); the World Trade Center terminal and the mostly completed Journal Square Transportation Center.



the passenger and made over-all operational peak-hour stress just a little bit easier. It has had the very real impact of reducing our peak 15-minute traffic load at World Trade Center terminal (our busiest station), from about 7,500 to about 6,200 passengers.

Q. You seem to have suffered less from vandalism and to enjoy better treatment from the media than some other transit systems. Why is that?

A. We feared vandalism out of proportion to our experience. In part I think it is related to the high proportion of white-collar riders—executive and clerical—that we have on our system. We have, however, tried to protect against vandalism to a great extent through the choice of materials—for example, laminated plastic surfaces on the interiors of our cars and through pop-out seat panels. Continuing maintenance, good housekeeping and other security measures help a great deal.

Rowdyism doesn't seem to be a regular pattern on our system, but if there is a repetition of it we have extra police protection to keep things in reasonable order.

As for better relations with the public and the media, we made a major effort from the outset to communicate with our passengers and the public to the greatest extent possible. For example, we decided years ago to post a passenger service representative in our control center in peak periods, to address himself solely to anticipating passenger comfort and convenience matters. We recently had a delay on one of our two major lines and it was that person's job to concern himself with the right station announcements, both as to frequency and content, to try and visualize what kind of congestion might be developing and where, to get positive feedback from station agents on what kind of backups were developing and to doing all possible to ease the problems of the traveler.

On another point, we felt we needed an active channel of communication with the passenger—posting him on all the things being done on his behalf behind the scenes; in effect, to tell the passenger to bear with us and be patient in the event of any delays while we moved ahead with the rehabilitation. For this we have various bulletins and a newsletter which are well received by the patrons. We have also encouraged communications from our passengers that would give us specific indications of any discomfort or difficulty they are having.

Q. You've also had BART-style passenger service representatives?

A. To an extent we have. Several years ago we instituted a behind-the-scenes tour program primarily for minority children. This year we're opening it up to senior citizens as well.

The tour guides come from different backgrounds, but are mostly from minority groups—well-groomed, well-poised teenagers who personalize things and earn some income while they gain experience. They've had a good impact on our passengers.

Q. Would you call morale on this property good?

A. I think so. We've tried to keep a reasonably relaxed atmosphere yet have tried to keep our standards of performance high. We felt after we assumed operation of the system that it had been too military in its style and discipline. The boss was feared, and a lot of things were covered up in internal reporting. We certainly hold key people responsible, but we invite their thinking on their own and initiating new ideas and pushing them at us.

Q. For example?

A. We've improved after-incident critiques. They've been designed not to punish but to see what lessons we can learn and how we can protect against similar incidents in the future.

This pointed the way, for example, to having all sorts of spare parts located around the system, and to having specialized staff posted at key points at peak periods, ready to jump into the

breach, if necessary. It has resulted in much-improved standard operating procedures on how to disengage from one type of difficulty or another—and, most importantly, it has resulted in improved on-time performance and system reliability.

It has also resulted in an atmosphere of genuine involvement and participation down the line, so that even the junior guys feel their suggestions are valued.

Q. What's next on the agenda for PATH?
A. We expect to wrap up projects such as the Journal Square Transportation Center in the next two years. We haven't yet completed the shops and yards upgrading effort. And we have a project outlined for upgrading all our stations to a level reasonably compatible with Journal Square and the World Trade Center terminal—not as elaborate structurally, but to bring them up markedly in esthetics and comfort.

Q. When will that move?
A. We hope the station upgrading project will be off and running in six months or so, and substantially completed within two years.

Q. Do you have any more car-buying plans?
A. The cars we're now receiving permit eight-car train lengths, but our new stations are designed to accommodate 10-car trains. If traffic and service require it, we'll order about 50 cars to permit 10-car train operations.

Q. A number of proposals have been kicking around—for a PATH extension to Newark Airport, for a new tunnel under the Hudson, for more hookups with other lines. Where do these ideas stand now?
A. These are matters of policy decision making beyond my ken. I will say, however, that there are studies going forward, and that the staff, which did a major job of upgrading what was a wreck of a railroad, stands ready to do anything else directed of it.

Q. You've been heavily involved in industry affairs through the Institute for Rapid Transit. How much time do you give this and when did you begin work in this area?
A. I'd guess between 15% and 25% of my time, depending on how active the Washington scene is. I was appointed chairman of the government affairs committee of the IRT in 1968, and we spent the next two years looking to get the Urban Mass Transportation Assistance Act of 1970 passed.

In the past two years, the committee and I have been working on several other important legislative matters, including the proposed Federal operating subsidy program.

Q. What chance do you give that this year?
A. At the moment it looks as though the Congress will pass a bill. We are working vigorously to achieve that result.

Q. In other words, you're hopeful?
A. I am. Some form of relief is coming. If not this year, it will be next year.

Q. Do you see greater comprehension of transit needs and objectives?
A. There used to be a notion that transit operators were money-grubbers who were trying to make more surreptitiously by their plaints about deficits. Now transit is being likened to other government deficit services that have to be supported by other than farebox revenues.

Q. But it took so long.
A. Well, let me ride a hobby horse here. I think part of the difficulty is the failure to come to grips with defining over-all urban policy objectives—for example, which cities get subways and which don't; what are reasonable standards of public transport service for differing population densities. In many European countries there is much more of an articulation of such objectives, including the timing and extent of national assistance.

In this country we're caught in the middle of a kind of schizophrenia. The Federal government's instincts are to defer decision making to local governments and thus permit greater variation in outcomes, but at the same time it attempts to impose detailed criteria without benefit of an over-all urban transportation master plan. There is no framework for thinking about the over-all problems of urban transport.

But things are changing. Secretary Volpe has been most effective in moving toward upgrading of public transportation and in articulating DOT policy. Tick off, if you will, the number of major programs that have been or are being advanced in the past two or three years in concert by DOT, the transit industry, and the associations of city officials and it does represent an impressive measure of major progress.

Yes, I do believe the picture will get much better.

New cars add to PATH's capacity

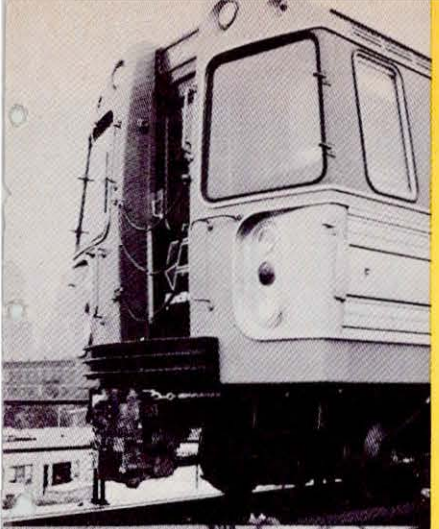
In a half-dozen years, the passenger load on Port Authority Trans-Hudson has gone up 50%—from 26.5 million in 1966 to an expected 40 million annual riders in 1972. With train headways on the double-track system already as short as practicable, PATH had to increase the length of its trains to expand capacity and improve passenger comfort.

Phase 1 was the opening of the World Trade Center terminal in downtown Manhattan with platforms which permitted expansion from the previous train limit of six cars. Now, in Phase 2, PATH is expanding its car fleet to operate eight-car trains on its Newark line and seven-car trains to and from Hoboken. This will increase the capacity of PATH's Downtown Manhattan line by 25%.

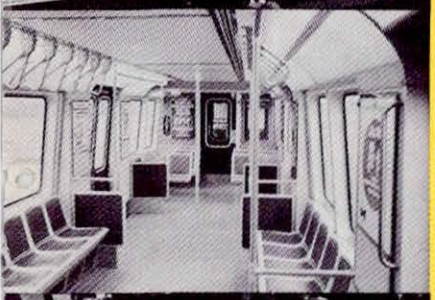
While the 46 new cars are fully compatible with the 205 cars put in service in 1965 and 1967, there are a number of distinctive features.

● **Canadian-built.** The new cars are being turned out by Hawker Siddeley Canada at its CanCar plant at Thunder Bay, Ont.—the first Canadian-built equipment ever delivered for U.S. rapid-transit service. That, in itself, was a point of controversy from the time the $8.5 million order was placed just over two years ago. Antidumping charges brought by an American car-builder were dismissed by the U.S. Treasury recently. The cars actually incorporate over 60% U.S.-produced components on a dollar basis.

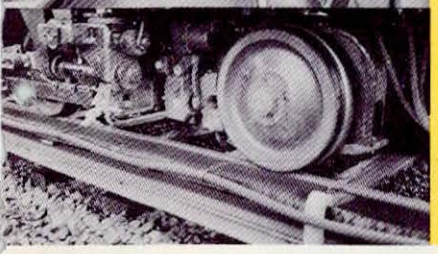
PATH chose not to have "carbon copies" of the vehicles it already had in service. The aluminum-alloy body with an aluminum/steel underframe represents an aircraft-type monocoque construction which makes unnecessary a center sill such as used on the earlier models. Those older cars, incidentally, have the largest aluminum-alloy center-sill extrusions ever produced. The new aluminum and steel structure results in a car weighing approximately 60,000 pounds with a length over couplers of



Simplified exterior of aluminum body has been designed to blend with existing cars which will operate in the same trains.



Cantilevered seats supported only from sidewalls produce a completely open floor area in car ends where PATH has transverse seating.



General 70 truck with chevrons at journals finds its first application on 46 new cars. The current collection shoe is new Dyna-Glide arrangement.

Partial list of suppliers

Aluminum extrusions and sheet	Kaiser Aluminum
Aluminum coil and trim	Alcoa International Canada
Stainless-steel trim	Roll Forming
Propulsion and controls	Westinghouse Electric
Air conditioning and heating	Safety Electrical Equipment
Trucks	General Steel Industries
Roller bearings	Timken
Wheels	Canadian Steel Wheel
Axles	Hawker Siddeley Canada
Air brakes and automatic couplers	Westinghouse Air Brake
Hand brake and handholds	Ellcon National
Shock absorbers	Houdaille Industries
Doors	O.M. Edwards
Door operating equipment	Vapor
Windows	Globe Glass Manufacturing
Lighting, markers, side signs	Luminator
End destination signs	Teleweld
Public address system	Midwest Audio
Batteries	Alkaline Batteries of Canada
Interior finish	Arborite
Flooring	R.C.A. Rubber
Insulation	Canadian Industries
Seats	American Seating
Paint	Sherwin Williams of Canada
Car Ends	Structural Glass

51 feet 3 inches, a maximum width of 9 feet 4½ inches and height over-all of 11 feet 8 7/16 inches.

● **Primary suspension.** The primary suspension of the new PATH cars incorporates a feature which has been of growing popularity in Europe but is now seeing its first U.S. application. The journal boxes in the GSI General 70 trucks are supported by rubber/steel "chevrons" that eliminate coil springs and equalizers. While the 1965/1967 PATH cars also have the General 70 truck, the new version incorporates not only the new chevron system but also alters the coil/air spring secondary suspension to give a new roll stability and produce a softer vertical ride.

Chevrons have been in service on cars of London Transport since the mid-1950s, reportedly with virtually no maintenance. Since the London applications—and there are now hundreds of such cars—other transit systems in Stockholm, Madrid and Milan also have opted for this type of suspension. As explained by D.G.K. Wilmot, vice president, engineering, GSI, the rubber chevron makes it possible to design into a truck any combination of lateral, vertical and horizontal ride characteristics and produces positive axle guidance to introduce a truck stability otherwise difficult to achieve. He notes that the chevron-mounted journal boxes also serve to isolate the truck and carbody from wheel/rail contact noise. Summing up, Wilmot cites the advantages of the General 70 with chevrons as being light weight and having low noise transmission and good ride characteristics.

● **Insulation.** In addition to the noise isolation in the trucks, insulation between truck and carbody, the car undercoating, and the thermal insulation in the body all serve to minimize noise transmission from the rails.

All 46 cars are of PATH's "A" configuration with an operating cab at one end. The lightweight, high-performance traction motors, driving through double-reduction parallel gear drive units, are capable of a maximum acceleration rate of 2.5 mph per second and a maximum deceleration of 3 mphps.

New features in the Westinghouse Electric control package are a jerk-rate limit which makes for smoother reapplication of power and a minimum braking rate of 0.7 mphps, compared with 1.5 mphps in the earlier cars.

The cars are designed for speeds to 70 mph. Dynamic braking is the primary retardation, with the Westinghouse Air Brake RT-2 system blending a pneumatic application to fully stop the car from about 10 mph.

Car interiors, designed for easy maintenance, utilize plastic, stainless metal and compositions in harmonizing combinations of orange, brown and buff. Floors are covered with RCA Rubber brown tile. The upholstered, contoured seats for cross-car seating at the ends are cantilevered from the side walls, producing a completely unobstructed floor in these areas of the car. Seating capacity has been reduced slightly from the predecessor cars. But the same basic concept of transverse seating at the ends and longitudinal seats in the center has been retained.

● **Indicator lights.** To assure rapid troubleshooting, the new cars feature indicator lights which make it possible to quickly identify such situations as failure of doors to lock, actuation of the emergency brake, and failure of the air conditioning system. Each of the door leaves on the car is actuated by an individual Vapor Slim-Line electric operator mounted in the car sidewall at convenient working height. While there are now eight door operators per car, PATH anticipates that it will have less difficulty than with the six floor-mounted units used on the earlier cars.

The car is cooled by a Safety 10-ton electro-mechanical air-conditioning system, much like the installation on PATH's 1958 cars which made up the world's first air-conditioned fleet. High-level illumination is produced by high-frequency fluorescent units. ■

Girard Spencer
Daniel Jerman
John Burcham
Mathew Platt
Paul Mesila
J. Torres Moncayo
Lee Rhoads
Albert Maier
William Hussmann
Stanley Anderson
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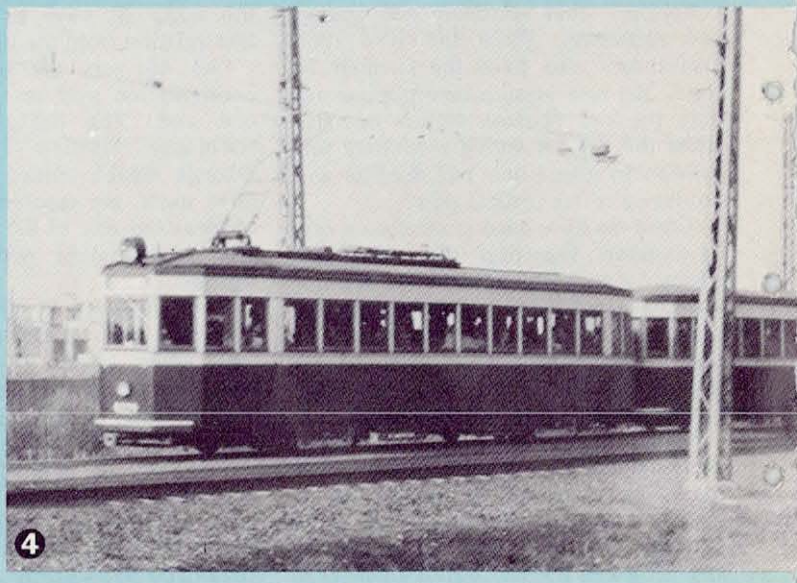
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David Miller Langhorne Bond Maurice Mates Luther Miller Stanley Allan Robert Richards Cleatus Barnett James Caywood

Donal Smith Arthur McGinnis

RAILWAY AGE 1972
RAIL TRANSIT SEMINAR TOUR

Europe in transit: An American view

Is Europe really ahead of America in implementing mass-transport technology? If so, why? The 26 men pictured above, representing diverse transportation interests in the U.S. and Mexico, recently spent 17 days searching for the answers.

In Munich, Vienna, Budapest, Leningrad, Hamburg, Brussels and Paris, they rode trains and trams of every vintage, from the 76-year-old wooden cars in Hungary's capital to the gleaming 1972 models rolling into Munich to handle the Olympic crowds. They donned hard hats to explore construction sites and unfinished tunnels. They studied station design.

And in every city, members of this work-study-and-learn mission—organized by Railway Age as its fourth Rail-Transit Seminar Tour of Europe—sat down at conference tables with local planners, builders and operators and fired questions until interpreters were hoarse.

Their general conclusion: European technology, while superb, is not really superior to America's. But as Robert M. Coultas, executive vice president of the Institute for Rapid Transit, put it: "What's most significant—very significant—is the high priority given public transit at local, regional and national levels of government. They are impatient with delay in translating plans and designs into reality. When you observe their ability to cut through obstacles of institutional and special interest traditions, you come away determined to do the same at home."

Participating in the tour, which was conducted by Railway Age's editor, Luther Miller, and art director, Maurice Mates, were: Stanley Allan, vice president, Harry Weese & Associates; Langhorne Bond, executive director, National Transportation Center; James A. Caywood, senior vice president, De Leuw, Cather; Albert Childs, Urban Mass Transportation Administration; Robert M. Coultas, executive vice president, Institute for Rapid Transit; William H. Hussman, director, Washington Suburban Transit Commission; Daniel L. Jerman, rail & transit design, Parsons, Brinckerhoff, Quade & Douglas; Albert G. Maier, manager-mass transit sales, General Railway Signal.

Arthur J. McGinnis, Simmons-Boardman Publishing; Paul Mesila, auditor; David R. Miller, vice president, Daniel, Mann, Johnson & Mendenhall; J. Torres Moncayo, manager Commercial Services, Mexico City Metro, Mexico; Lee M. Rhoads, vice chairman, Northern Virginia Transportation Commission; Robert B. Richards, president, De Leuw, Cather; Donal Smith, supervisor rail program planning, Port of New York Authority; Girard L. Spencer, vice president, Coverdale & Colpitts;

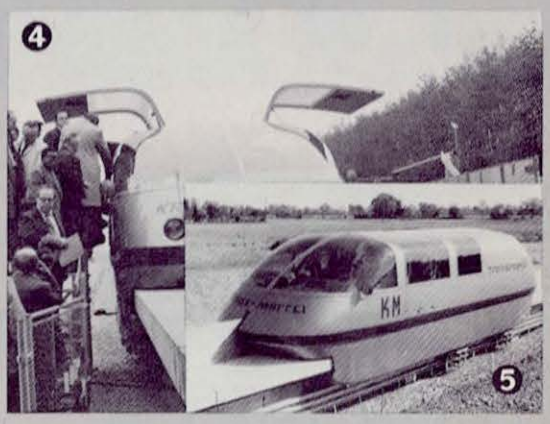
Joseph Alexander, director; Stanley Anderson, vice chairman; Cleatus E. Barnett, director; John B. Burcham, director; Roy T. Dodge, chief, Engineering & Operations; Mathew Platt, assistant director, Planning; Nicholas J. Roll, director, Real Estate; Carlton R. Sickles, director—all of the Washington Metropolitan Area Transit Authority.

LENINGRAD

Leningrad's unique trainscreen stations (1) are controversial even within Russia. They resemble office-building corridors lined with banks of elevator doors. These doors and train doors open simultaneously; WMATA's Nicholas Roll is shown in open door (2). Claiming both safety and cost advantages, Leningrad has built 10 such stations; but Moscow has rejected the concept (as did BART in the U.S.). De Leuw, Cather's James Caywood questioned safety of system as now operated because doors lack sensitive edges and there is a gap between screen and cars, creating what Caywood called "a safety trap and guillotine instrument." But there are obvious ventilation-control benefits and several members of Railway Age group felt further U.S. study was merited. Elsewhere, PATH's Donal Smith tested Leningrad's coin-changing machines (3). City has few autos but excellent public transport. You can ride to Peterhof, site of Czar's summer palace, on one of the fast interurban lines that fan 30 miles out of Leningrad (4), and return by hydrofoil (5), which operates on Gulf of Finland and Neva River.

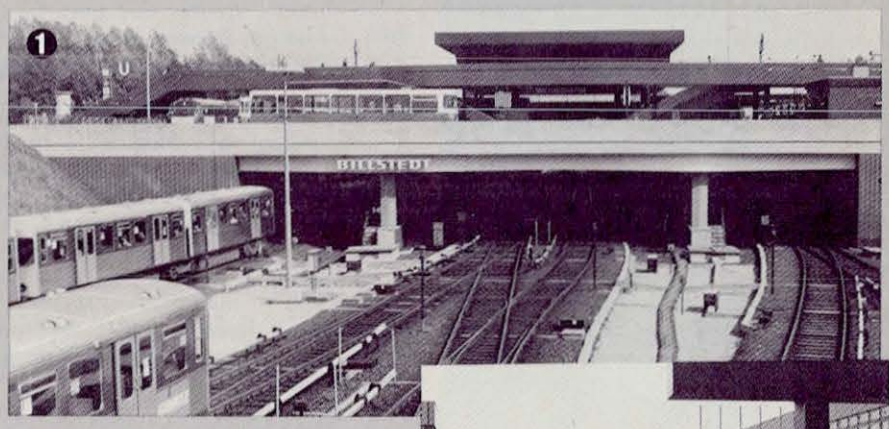
MUNICH

Munich's Olympic site (1) is served by a special 2 1/2-mile branch of the new U-Bahn (Metro), of which 10 miles are now open. At center city the north-south U-Bahn interconnects with a new 2 1/2-mile cross-town tunnel (joining Munich's Main and East railway stations) used by S-Bahn suburban trains of the German Federal Railway (2). Explaining city's master plan to Railway Age group, Dr. Peter Engelbrecht emphasized importance attached to total transport integration which, as he put it, "will put the automobile in its place—away from the center city." Following subway construction, much of downtown Munich was paved over as pedestrian malls (3). Just outside of Munich, Krauss-Maffei is testing one of the world's most advanced magnetic levitation vehicles, the Transrapid (4). Test vehicle has linear induction motor. Levitation is about one inch. The Transrapid is envisioned as tomorrow's high-speed intercity mode. An urban version is also planned, but right now Munich is solving today's problems with today's technology. Generally, Munich is following the total-system approach, emphasizing service to riders, brilliantly pioneered by Hamburg.



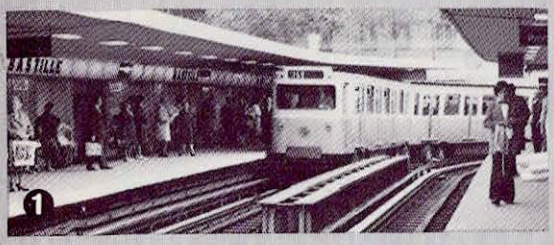
HAMBURG

Bilstedt Station (1) is one of several in Hamburg where buses and trains swiftly and efficiently exchange passengers. Adjoining the station is a large and busy shopping center (2)—all part of what one member of Railway Age group called "surely the world's most masterful master planning." Dr. Karl Lippacher (3) explains Hamburg's plan for integration of all public transport. Eight separate agencies work closely together under a central committee: the largest are the Hamburger Hochbahn (HHA), accounting for 71% of all transport, and the German Federal Railway, 20%. Parallel operations are avoided as far as possible. Hamburg's remarkable success in discouraging autos from entering the heart of the city is indicated by the fact that core-area parking garages are only 20% utilized. Like many European cities, Hamburg has abandoned fare collection, instead uses quasi-honor system. Passenger cancels his own ticket in a machine; if found by spot checker without ticket he pays fine equal to 20 times ticket's value. Hamburg figures a 1% loss in revenues but a far greater saving in avoiding costly collection methods.



PARIS

Big news in Paris is that another Metro line—No. 6—will be converted to rubber-tire operation, an effective answer (Metro officials hope) to those critics who claim that Paris is trying to export a system it no longer believes in at home. Rubber-tired train now operating is shown at Bastille Station (1). But Paris' real showcase is the new steel-on-steel West Line of the Regional Express Network. Shown riding head-end of train (2) which speeds almost noiselessly from Auber Station (near the Opera) through Etoile to suburban Defense Station at 50 mph are Railway Age tour members Bond, Maier, Mesila, Barnett, Spencer and Miller, with Metro representative. Auber's bubble-like commercial kiosks (3) wow visiting architects. Paris briefing session (4), conducted by Metro officer Michel Linon, was typical of those Railway Age group had in each city.



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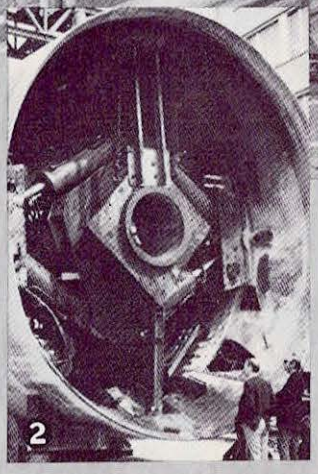
VIENNA

While the Austrian capital's first true Metro operation is still some years distant, Railway Age group was impressed with long-range planning which is providing sections of tunnel for today's tramcars, for ultimate inclusion in a Metro network. During construction of major underground station at Karlsplatz (1) normal surface traffic continues. Albert Childs and Carlton Sickles inspect shield ready for major tunneling job (3). David Miller, Childs and Girard Spencer compare tunnel liner with types used elsewhere (4). Vienna is pre-selling its "topless transit" (i.e., underground trams) plan with such racy posters as that being admired by Langhorne Bond (5). Vienna now has 16.6 miles of tramway routes, of which 3.9 are already in tunnels; they serve 25 stations. Vienna is also served by the Austrian Federal Railway's "Schnellbahn" trains, with a total route length of 19.3 miles. Implementation of Vienna's pre-Metro program has been slowed both by a shortage of funds (the only city visited in which this was a major problem) and also by the need to take costly measures to protect the foundations of such historic buildings as St. Stephen's Cathedral.

1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BRUSSELS

Like Vienna, Brussels is taking the pre-Metro route—though faster. Special low platforms for trams are provided in tunnels which will eventually be converted to full rapid-transit operation (1). Passengers are already enjoying the benefits of this transition: where it once took a tram 30-40 minutes to go 2.5 miles, it now takes 7 minutes. Brussels also has the world's first true midcity-to-airport rapid transit line (Cleveland has the second). Daniel Jerman and Langhorne Bond are shown as they board airport train beneath Sabena Terminal in midtown Brussels (2). Train stops just beneath the airport terminal (3); it's an escalator ride to the flight area. Operation is a joint project of the National Railway (SNCB), the Airways Board, and Sabena. Sabena owns the rolling stock; SNCB operates the trains. The 9½-mile journey by train takes 15 minutes, costs $1.00; by cab it takes three times as long and costs four times as much. Existing SNCB line was used for 90% of route.

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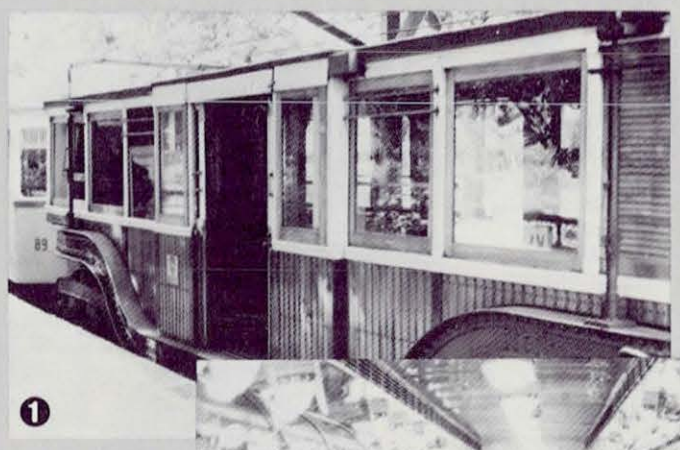
BUDAPEST

Budapest has Europe's oldest subway line, dating from 1896; original cars are still in use on this shallow 2½-mile section, which was damaged by Russian tanks in 1956 but is now in good condition (1). Budapest has completed a new 4-mile subway on which 44 Russian-made cars (2) are operating; and is still digging (3) to complete a system that will total 17 miles of deep—120-ft—tunnel. Hungarians emphasize that they get very little technical aid from Russia in construction; while cars are built in USSR, interior fittings come from Hungary.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Kansas Test Track will study rail-support concepts promising greater stability

By MERWIN H. DICK,
Engineering Editor

Come November and the Kansas Test Track will become "operational." Some time during that month heavy Santa Fe freight trains, aggregating 50 million gross tons per year, will begin rumbling over the highly instrumented test track which incorporates concrete ties and other types of concrete support systems.

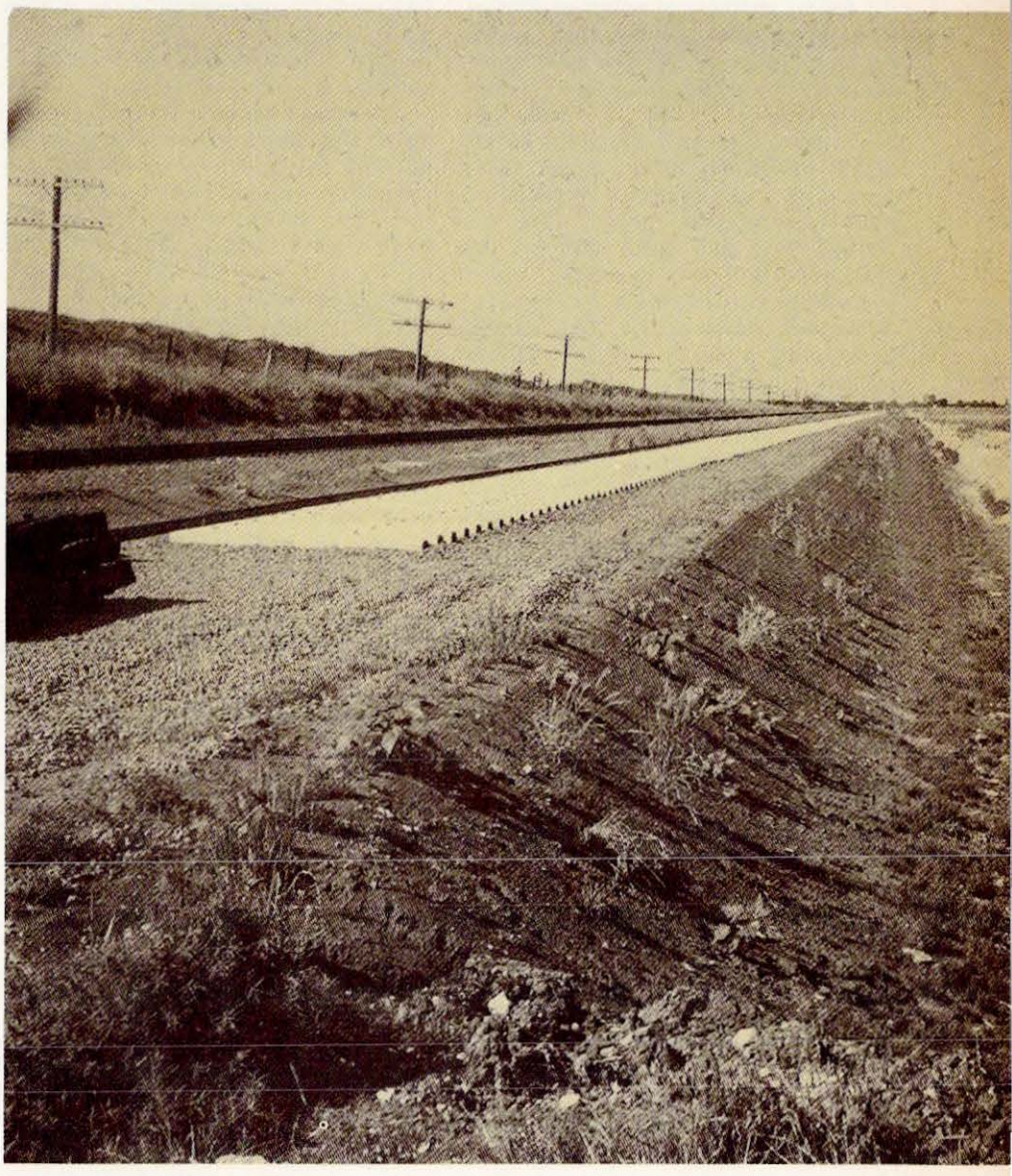
After that, and for about three years, the instrumentation will make it possible for researchers to observe a variety of reactions in the embankment, the support systems and the rails. They will be able to detect and measure any movements deep in the subgrade as the freights speed overhead. Special "load-cell" ties and instrumentation of concrete ties will permit measurement of all forces imposed on the ties. Meanwhile, any deterioration of the geometry of the track will be recorded by a highly sophisticated track measuring car.

Instrumentation of, say, a concrete tie at the Kansas Test Track has been likened to the devices attached to a patient in the intensive care ward of a hospital to monitor changes in his condition. The researchers will know, at the locations measured, exactly the extent to which the tie is being subjected to bending stresses, torsion and deflection.

● **Joint Santa Fe-DOT project.** Thus, after more than three years of planning and preparation, the Kansas Test Track will come into existence. It is being sponsored jointly by Santa Fe and the Federal government, the latter represented by the Federal Railroad Administration of the Department of Transportation. In constructing the track the railroad is the prime contractor. Exercising general supervision over the project for the railroad is W.S. Autrey, chief engineer of the Santa Fe System. W.S. Tuinstra, engineer of special projects for the Santa Fe, is the railroad's direct representative in all matters relating to the project.

What is being sought through the Kansas Test Track? The answer to this question, in the words of Kenneth Lawson, chief of the Rail Systems Demonstration, "is a type of track structure that will have the ability to maintain its geometry and its resilience for longer periods under greater stress than contemporary track may be able to."

In a report on the track FRA said "the purpose of the venture is to determine the cost-benefit relationship of several methods of improving upon traditionally designed, conventional railroad track. Subjected to study will be several concepts of rail support offering the promise of greater stability under rolling loads and longer-term retention of this desirable characteristic than is possible of achievement with contemporary track design."



TEST-TRACK SITE at a concrete-tie section as it appeared about the middle of June. The expectation is that traffic will be routed over the test track in November.

● **Four systems to be tested.** In an address before the March 1972 convention of the American Railway Engineering Association, W.B. O'Sullivan, staff engineer, Rail Systems Division, FRA, said the Kansas Test Track has, as its major objective, "the determination of relative stability exhibited by four distinctly differing levels of train-support stiffness." He described the four systems in more detail in these words:

"The four structural systems embodying the separate levels of guideway stability are, in order of descending stiffness: Three sections including a reinforced concrete slab, continuously reinforced concrete twin beams, and precast, reinforced concrete twin beams; (2) a segment referred to as the stabilized ballast section, which incorporates standard Santa Fe main-track design as to wood tie spacing and ballast depth

but having had the ballast fully treated with an emulsified elastomer gripping the ballast particles at points of contact in an elastic manner rather than imparting rigid stiffness; (3) four sections of concrete ties representing three centerline spacings (30 inches, 27 inches and 24 inches), and two below-tie ballast depths of 10 and 15 inches; and (4) a section on standard Santa Fe main-line track to serve as a control." The rail through the test track will be the 136-pound R.E. section welded, which is standard for this Santa Fe territory.

● **Wanted: heavy traffic, high speeds.** In selecting a site for the test track a primary consideration was the need for a location of high speeds and heavy traffic and with suitable subgrade conditions. A site meeting these requirements was found on Santa Fe near El Dorado, Kan., about 40 miles northeast of Wichita. Traffic here is about 50 million gross tons per year and speeds range up to 79 mph for freight trains.

The concrete tie chosen for the test track is the Gerwick RT-7 tie as manufactured by the Ben C. Gerwick Co., a division of Santa Fe-Pomeroy, Inc. (no connection with the railroad). This is a mono-block, prestressed tie manufactured by the long-bend method. The fastening throughout is the True Temper Cliploc, and the rails are separated from the ties by 6-inch by 9-inch Syntex elastomer pads.

The test track is being constructed on an alignment parallel with, and 30 feet north of, the existing main track. The alignment is tangent throughout and the grade ranges from .38% to .41% descending to the west. When the test track is fully operational all traffic will be routed over it.

The test section has a length of about 8,000 feet. Arrangement of the nine test sections is shown on the diagram. With one exception the test sections are 800 feet long. The exception is the section with stabilized or "glued" ballast. Because of unavoidable site dictates this section was made 546 feet long.

A contract for design of the embankment and the instrumentation to be installed in it was awarded to the consulting firm of Shannon & Wilson, Inc. The principal design objective was to produce a uniform support of good quality for the test-track structure, using locally available materials.

● **Features of embankment.** The standard Santa Fe embankment section was selected for the test track. A minimum embankment depth of six feet was adopted. Where necessary to provide this minimum embankment depth, existing rock was excavated and wasted. To avoid the consequence of strength loss in the embankment due to frost action the top six inches of the subgrade were treated with a 3% lime admixture and sealed with cutback asphalt.

In preparation for placing the various test segments, six inches of Pueblo blast-furnace slag ballast was placed on the subgrade and compacted by rolling. At Section 8, where the specifications call for 15 inches of ballast under the ties, 11 inches of compacted ballast were placed. The additional 4 inches of ballast required under the various sections are to be placed after the track is laid.

At Section 6, where specifications call for the ballast to be stabilized with an elastomeric polymer, the treatment was applied to the compacted ballast layer, with the intention of treating the remainder of the ballast section after it is placed. This material, having the trade name of Petroset RB, is being furnished and applied by Phillips Petroleum Co.

The concrete beams and slabs for the test track were designed by Westenhoff & Novick, Inc., Chicago. The direct-fixation fastening selected for use throughout the concrete beam and slab sections is the Fastall rail fastener developed by the Fastex Division of Illinois Tool Works. This fastener, a highly engineered and complex assembly, was modified to satisfy specifications established by the FRA. It is designed to permit lateral and vertical adjustment of the rail in small increments.

● **Outline of instrumentation.** As explained by O'Sullivan, the instrumentation for each of the nine test sections is approximately similar and is comprised of: (1) In the embankment—

(a) Vertical and lateral extensometers to determine soil strains produced by stress applications.

(b) Moisture and temperature sensors.

(c) Load cells (at various depths and at the ballast interface).

(2) In the track structure—

(a) Rail and tie strain gages.

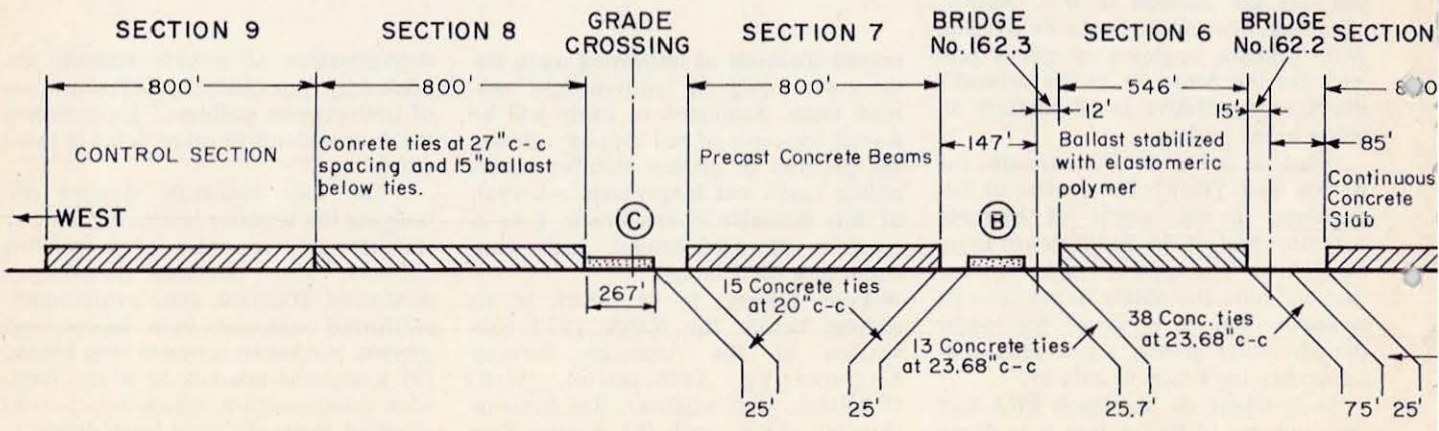
(b) Rail and tie accelerometers.

(c) Rail and tie displacement transducers.

(d) Tie-ballast interface pressure sensors embodied in a unique load-cell tie developed for this project by the Cement and Concrete Institute of the Portland Cement Association.

(e) Rail-bearing sensors either as part of the load-cell ties or, as in the case of the rigid support systems, as a vertical and lateral load-sensing element supporting a fastener.

Each of the nine test sections will have a principal instrument array in the embankment. The main arrays will be suplemented by additional instruments spaced throughout the test section to



STIFFNESS of the test sections in the Kansas Test Track increases progressively from east to west. Design of the track structure in the several gaps

verify that the performance of the embankment at the main array is typical of the particular section.

The main array in each test section has been positioned near the west (downgrade) end on the premise that measurements will be made principally under westbound rail traffic, which is the preponderant movement. Specifically, the main array is placed at the 600-foot point in each of the test sections except for the section with stabilized ballast where the array was placed 400 feet from the east end.

● **Instrumentation at main arrays.** The embankment instrumentation has already been incorporated in the completed fill. At the location of each main array there are three vertical extensometers anchored in rock, one in the center of the track, one under the north rail and one four feet from the north rail. The purpose of these is to measure vertical embankment strain (deformation) relative to the surface of the subgrade. In addition, four vertical extensometers were installed at other points in each section at 100-foot intervals.

At each main array, provision for the use of horizontal extensometers has been provided in the form of horizontal four-inch corrugated polyethylene tubing placed at four levels. Strain rods will be used to measure the static deformation of the embankment at the location of the tubes. Dynamic deformations in the tubes will also be measured.

Other instrumentation at the main arrays includes three pressure cells in the upper portion of the embankment, and 13 moisture-temperature sensors.

The Portland Cement Association's Cement and Concrete Institute has been awarded the contract for design and installation of above-foundation instrumentation and subsequent data collection and analysis.

● **The load-cell ties.** An important part of this instrumentation is centered in the load-cell ties which will be installed in each of the crosstie test sections. These, to be constructed of steel, will have approximately the same stiffness as the adjacent ties, and that part of the load-cell tie contracting the ballast will be the same size as the adjacent ties. The dynamic structural response of the steel tie is intended to be identical with that of the tie being simulated. Hence, the measured reactions on the load-cell tie should be directly comparable to those on the other ties.

Instrumentation of the load-cell ties and also of certain concrete ties will make it possible to measure all forces imposed on the ties, including the pressure at the interface with the ballast, distribution of the pressure along the bottom of the tie over a period of time and the bending moment under the rails and at the center of the ties. Torsion and bending of the concrete ties will be measured through the use of strain gages. Oscillographic recorders producing a permanent ink trace on paper will be used to record the strains and also tie deflections, accelerations and the output of force-measuring cells in the load-cell ties.

Stresses in the rails will be measured by strain gages. These gages will be so placed as to sense the maximum bending moment due to wheel loads. Deflections will be sensed with electrical transformers that will have one end attached to a tie or rail and the other to a reference rod.

Instrumentation in the slab and beam sections will consist of deflectometers for measuring deflection, soil-pressure cells at the interface of the soil and the beams or slabs, pressure transducers under the rails, strain gages on the rails, and strain gages for measuring stresses in reinforcing bars.

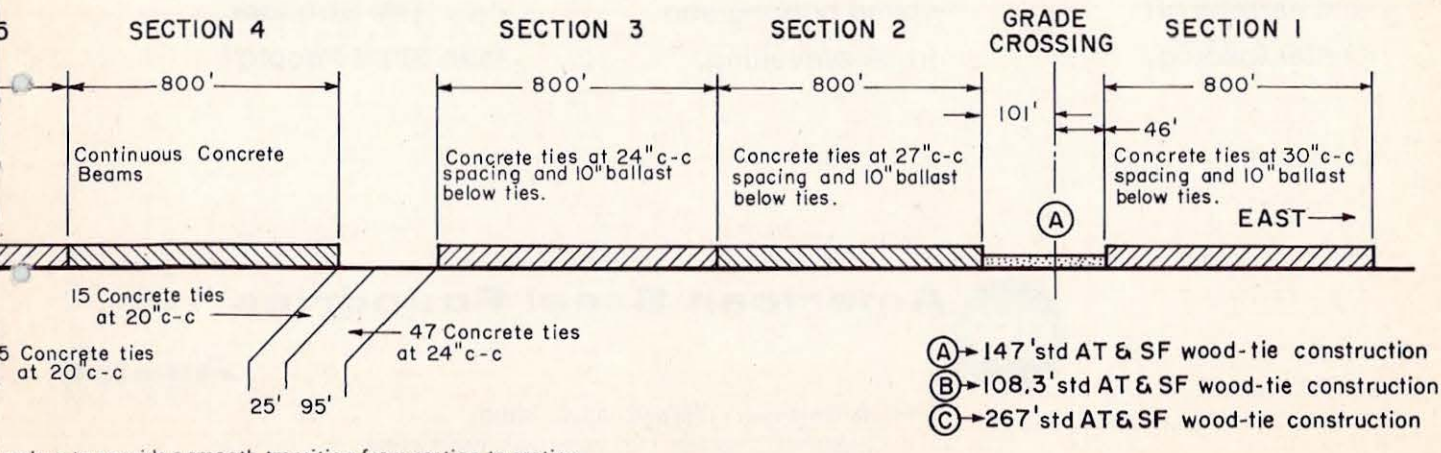
● **Construction timetable.** With all material on hand for the crosstie sections of the test track early in June it was expected that the rail for these sections would be laid and the test track otherwise completed for these particular sections during that month. It was expected that the contractor for constructing the slabs and beams would be getting started with the form work about the middle of July. September 30 has been set as the tentative date for completion of the concrete work, with rail to be laid on the beam and slab sections early in October.

"Hopefully," says Santa Fe's Tuinstra, "we will be able to cut in the test track in November."

Following a period of stabilization of the test track it is expected that inspection and observation of the track will be carried out on at least a seasonal basis, that is, four times a year. The expectation is that the DOT track-measuring car will play a part in these observations, along with readouts from the instrumentation. The measuring car will record both ride response and track geometry data, section by section.

Tentatively at least, the plan is to collect data from the instrumentation over a three-year period, four times the first year and during the next two years at intervals to be determined later.

"No one is convinced that the Kansas Test Track is other than a substantial step in a long journey," declares FRA's O'Sullivan. The concepts that prove successful in this first phase will, it is expected, be tested further on curved track on more substantial grades. ■



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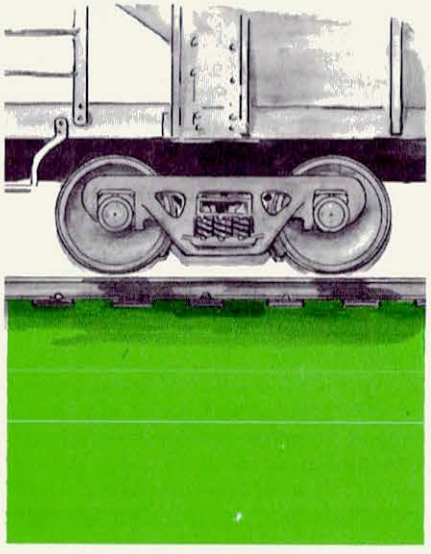

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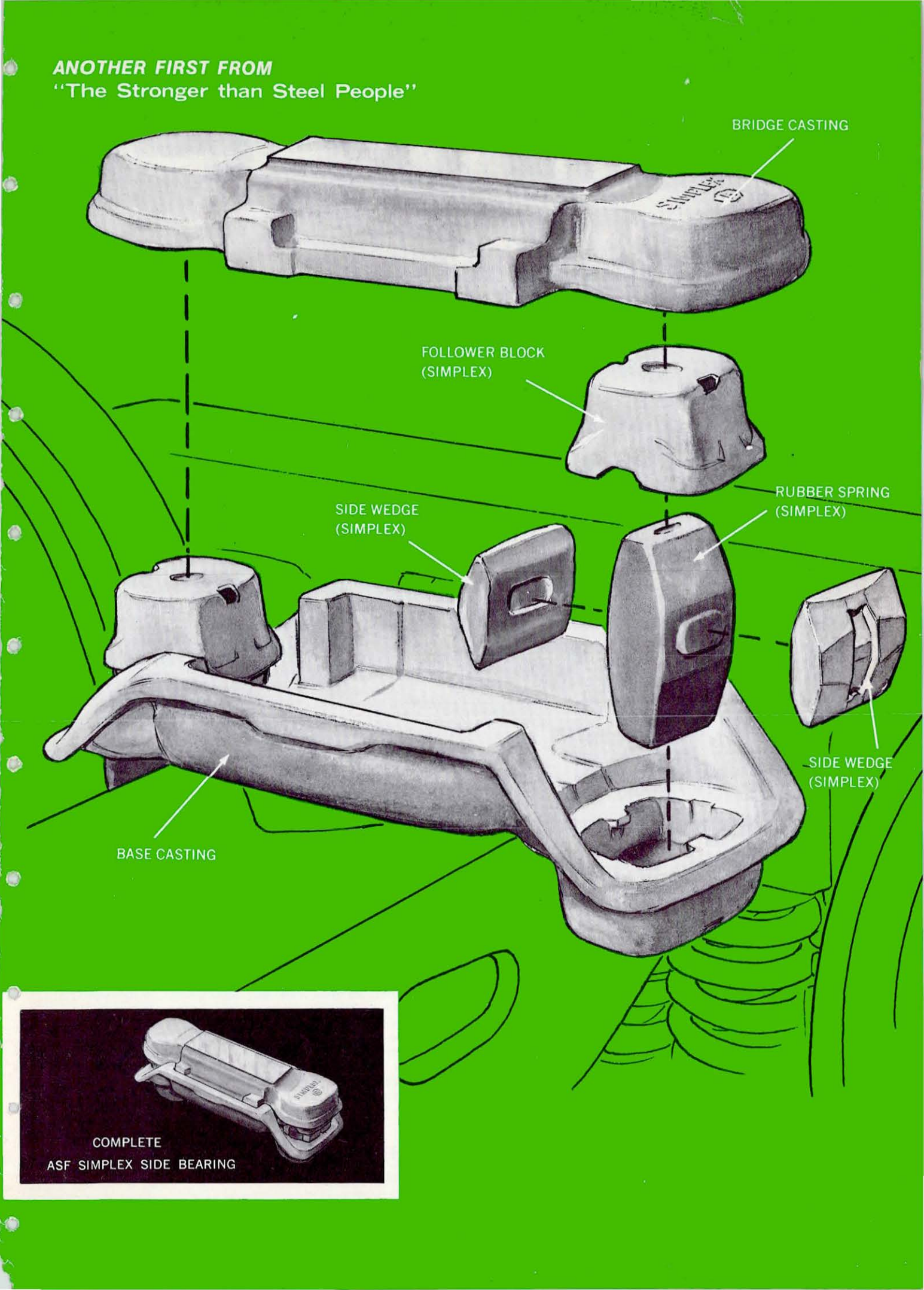

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Circle 16 on coupon page 49

New Products Report

Self dialing 'phone can handle 11-digit number

The new G-V telephones automatically dial any pre-programmed telephone number when the handset is lifted. The solid-state unit eliminates the need for special telephone lines dedicated to one use only. The G-V telephones, which can be programmed for any number of eleven digits or less, are available in desk set or wall mount models.

The self-dialing "hot-line" telephones incorporate solid-state automatic dialing modules small enough to be mounted inside some standard types of telephone instruments.

Circle 60 on reader service card

Series 2000 CPUs operate in communications environment

The Honeywell series 2000 family of medium-scale information processing systems consists of four single-processor models—the 2040, 2050, 2060 and 2070—and a dual-processor model—the 2088. The systems, designed to operate in a heavy communications-oriented environment, provide an increase in total system performance over Series 200 computer systems.

The new family of computer systems is a combination of processors, the Datanet 2000 communications processor, the OS/2000 data-based-oriented operating system and the new visual information control console.

The OS/2000 operating system, an evolutionary development of the OS/200 system, allows 10 concurrent jobs to be processed in hardware-protected memory partitions simultaneously with up to five data transcription routines.

The Datanet 2000 data communications processor contains a minicomputer with 24,576 bites of memory, processing unit, control console and input/output facilities for message handling, queuing and routine functions in a complex network of up to 120 communications lines serving various remote terminals.

Series 2000 central processors, which fit between the manufacturer's model 115/2 small-scale system and the series 6000 large-scale systems, have main memory sizes ranging from 49,152 characters on the 2040 to 1,048,576 characters on the dual-processor 2088. Cycle times range from 1.6 microseconds per character to 750 nanoseconds for four characters.

Standard features of the five central processors include a fast-access control memory for external and internal addressing; from 8 to 32 simultaneous peripheral operations with computing; simultaneous or interlocked read/write channels, and a business-oriented instruction set with a compatible scientific unit (optional on some models).

Circle 61 on reader service card

Improved a.f. overlay circuits now available

A complete line of WABCO audio frequency overlay circuits features multifrequency operation, utilizes standard 400-500 ohm relays and has printed circuit boards for ease of replacement. Major applications include highway grade crossing protection (where two AFO-II track circuits replace conventional three track circuit scheme), electric lock approach release circuit, automatic car dumping circuitry, signal block indication and block signal track circuits.

Frequency assignment includes 16 different frequencies in two classes (Class I frequencies range from 885 Hz to 6,180 Hz, and Class II frequencies are from 930 Hz to 6,330 Hz) with modulation rates from 18 Hz to 139 Hz. Two frequencies (one in each class) use the same modulation rate. All frequencies

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are carefully selected to avoid harmonic interference.

AFO-II equipment includes transmitter, receiver, receiver relay, track coupler and blocking reactor. The transmitter and receiver require dc power for operation. Track coupler and blocking reactor are used only in track sections when AFO signsls are superimposed over existing conventional dc or low voltage ac track circuits.

The low power transmitter is equipped with full power output voltage taps for track circuits up to 4,000 feet in each direction from the rail connecting point with 5 ohm ballast condition. A 30% output tap is provided for shorter track circuits down to 100 feet with 5 ohm ballast condition. With use of a high power transmitter, a track circuit may be operated up to 6,000 feet in each direction from the rail connecting point with 5 ohm ballast condition.

The AFO signal, pulse modulated at the transmitter, is filtered by the receiver to attain a high degree of immunity to noise in the rails. Both transmitter and receiver have built-in surge protection for track lead and dc line input. The units will operate over a battery voltage range from 9 to 16 volts dc.

Circle 62 on reader service card

NEW LITERATURE

BULK COMMODITIES. The Chesapeake & Ohio/Baltimore & Ohio have issued a colorful, 8-page brochure describing the savings and expanded market potential available to shippers and receivers of bulk commodities by using the roads' "Through Bulk Service." The method of transport utilizes combines rail and truck delivery to provide one complete service for liquid and dry chemicals, syrups and sugars, oils and wines, special sands and ferro alloys.

Circle 70 on reader service card

TESTING TRANSIT VEHICLES. A 4-page bulletin describes important features and the use of Westinghouse Electric Corp.'s diagnostic test equipment for rapid transit cars. The test equipment analyzes various car functions needed for safe operation and serves as a maintenance tool and a monitor of operating conditions.

Circle 71 on reader service card

SYNTHETIC CROSSTIES. A data sheet from Collins Synthetics, Inc., describes Colwood railroad ties, which are made from about 92% processed wood fiber, plus resins, which gives them an internal bond of over 350 psi and surfaces 20-30% harder than maple. The ties are less expansive than concrete ties, weigh less than half, and are handled, installed and used like conventional wood ties.

Circle 72 on reader service card

WAREHOUSING. The 1972 membership directory of the American Warehousemen's Association is available. It indexes AWA member public warehousing companies according to state and gives complete information on size, rail facilities and chief executives.

Circle 73 on reader service card

HAULING DRY CHEMICALS, PLASTICS. Eight technical bulletins presenting recommendations for transportation equipment to ship, and facilities to receive, dry chemicals and plastics have been issued by the Manufacturing Chemists Association. Recommendations are included for break-bulk terminal facilities. There is a charge for the bulletins—most are 50 cents, one costs 75 cents.

Circle 74 on reader service card

FRUEHAUF LOCATIONS. A 4-page brochure pinpointing the location of every Fruehauf branch and distributor in the U.S.A. and Canada has been developed by Fruehauf Corp.'s Fruehauf Division as a guide for rail and container operators and truckers.

Circle 75 on reader service card

DIESEL ENGINES. A 24-page brochure from Alco Engines Division of White Industrial Power, Inc., gives detailed information on the firm's full line of diesel engines for universal heavy duty use. Included are production, installation and in-use photos, as well as general specifications for the Alco 251 diesel, which is available in a wide range of sizes.

Circle 76 on reader service card

PROTECTIVE WRAPPINGS. New literature on products developed to protect freight shipments has been issued by Freight Gard, Division of Protective Plastics Co. Among products described are Freight Gard, the firm's protective plastic tarp on perforated rolls; jumbo polyethylene bags, and All-Weather Wrap, available in perforated rolls of continuous tubing or finished bags.

Circle 77 on reader service card

MASS TRANSIT CONTROL. General Railway Signal Co. has published a 28-page bulletin describing the various forms of mass transit and the company's experience in control systems in that field. It covers installations of controls in such cities as New York, Chicago, Cleveland, Boston, Toronto and Washington, D.C.

Circle 78 on reader service card.

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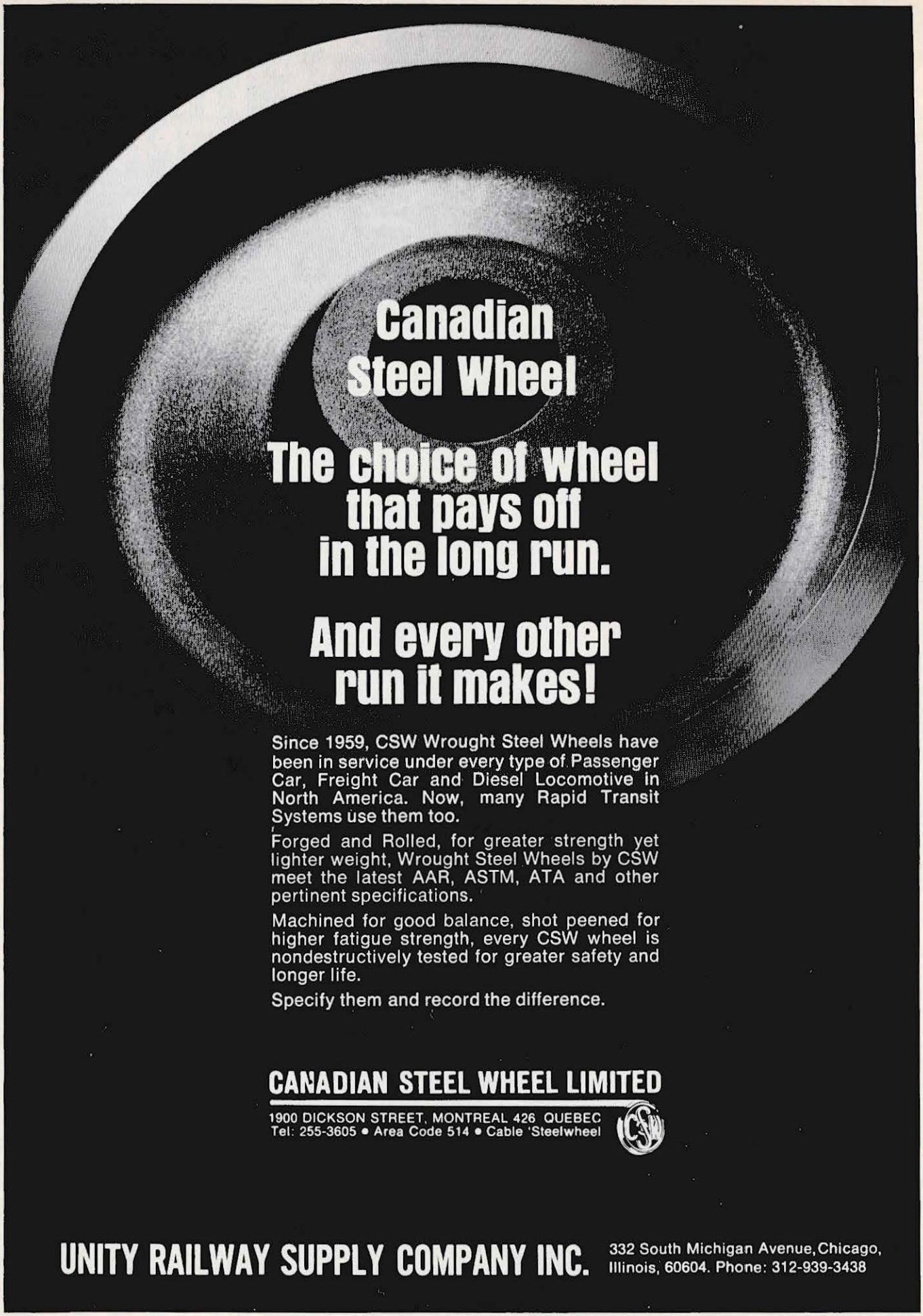
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Circle 17 on coupon page 49

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Circle 3 on coupon page 48

Market Outlook

CARLOADINGS

Loadings of revenue freight in the week ended June 24 totaled 515,549 cars, according to the Association of American Railroads. This was a decrease of 14,664 cars, or 2.8%, compared with the previous week, and a decrease of 37,695 cars, or 6.8%, compared with the corresponding week last year. Loadings were affected by tropical storm Agnes, particularly in the Eastern United States, the AAR pointed out. Ton-miles generated by carloadings in the week ended June 24 are estimated at 15.5 billion, a decrease of 2.9% below the corresponding week of 1971.

REVENUE FREIGHT CARLOADINGS

Commodity	June 24 week	June 17 week
Grain	29,545	24,395
Farm products	10,038	10,886
Metallic ores	38,872	40,804
Coal	94,298	96,617
Crushed stone, gravel & sand	28,245	30,360
Nonmetallic minerals	10,156	10,718
Grain mill products	18,183	18,032
Food and kindred products	22,549	23,350
Primary forest products	23,076	25,667
Lumber & wood products (except furniture)	18,051	18,091
Pulp, paper & allied products	23,093	23,857
Chemicals & allied products	24,550	25,219
Petroleum products	8,831	9,328
Stone, clay & glass products	21,163	22,909
Coke	7,571	7,798
Metals & products	23,616	24,722
Motor vehicles & equipment	22,553	25,008
Waste & scrap materials	15,006	15,937
Forwarder & shipper assn. traffic	6,496	6,101
All other carloads	69,047	68,396
LCL traffic	610	540
Total cars loaded	**515,549**	**528,735**
Cumulative total, 25 weeks	1972 12,335,184	1971 12,769,675
Estimated revenue ton-miles (billions) 25 weeks	371.6	368.4

PIGGYBACK LOADINGS

U.S. piggyback loadings for the week ended June 17 totaled 25,521 cars (8.8% above the corresponding week last year) and 43,788 trailers or containers (up 12.8% from 1971). Cumulative volume for the first 24 weeks of 1972 is 586,169 cars (up 7.5% from last year) and 981,497 trailers or containers (up 11.2% from 1971). In addition to freight, 2,297 cars carrying 3,536 trailers or containers of mail and express traffic were handled piggyback. Cumulative figures for the first 24 weeks of 1972 are 57,692 cars (down 25.4% from the 1971 total, and 91,570 trailers or containers (down 20.7% from 1971).

IN CANADA

7 days ending	Tons of Revenue Freight	Cumulative Totals
June 14, 1972	4,691,600	92,516,005
June 14, 1971	4,523,003	88,287,504

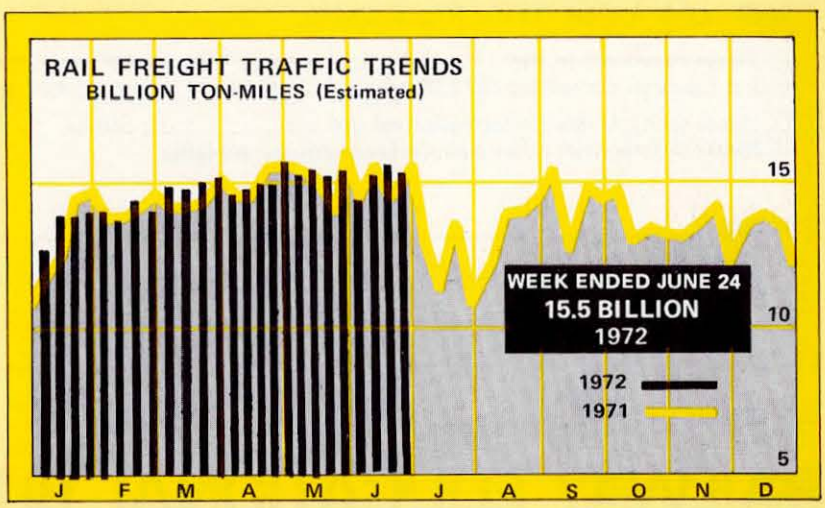
● *New York City Transit Authority.*—The Federal Department of Transportation has approved two major capital grants to NYCTA. One grant, to begin construction of the Second Avenue subway in Manhattan, totals $25 million. The other—to assist in purchasing 320 air-conditioned, 75-ft subway cars—totals $63,422,507. The funds will provide two-thirds of the project costs.

● *Washington Metropolitan Area Transit Authority.*—Awarded a $91.6-million contract to Rohr Industries for 300 75-ft-long rapid transit cars. The vehicles will be assembled at a Rohr facility in Winder, Ga. Sixty cars are to be delivered in time for initial Metro operations, scheduled for summer of 1974. The others are to be delivered by March 1976.

● *Freight-car orders and deliveries.*—The following report has been received from the American Railway Car Institute:

	May 1972	April 1972	May 1971
DELIVERED			
Built new by carbuilders	3,903	4,135	4,381
Built new in R.R. shops	828	282	871
Built new—total	4,731	4,417	5,252
Rebuilt	101	80	213
TOTAL DELIVERED	**4,832**	**4,497**	**5,465**
ORDERED			
To be built new by carbuilders	2,955	2,062	6,570
To be built new in R.R. shops.	228	650	100
To be built new—total	3,183	2,712	6,670
To be rebuilt	30	155	50
TOTAL ORDERED	**3,213**	**2,867**	**6,720**

ON ORDER AND UNDELIVERED	June 1, '72	May 1, '72	June 1, '72
To be built new by carbuilders	11,063	11,966	21,277
To be built new in R.R. shops.	4,281	4,881	3,717
To be built new—total	15,344	16,847	24,944
To be rebuilt	1,712	1,783	2,800
TOTAL ON ORDER	**17,056**	**18,630**	**27,744**



Source: Association of American Railroads

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People in the News

M. Spalding Toon
B&LE

Ray H. Smith
Soo Line

William R. Denton
SP

Arthur J. Doyle
Youngstown

Robert E. Brill
Youngstown

Alan W. Sampson
Farrel

BESSEMER & LAKE ERIE/UNION/ELGIN, JOLIET & EASTERN/DULUTH, MISSABE & IRON RANGE.—**M. Spalding Toon** elected president of these roads at Pittsburgh, succeeding **Fred W. Okie,** who retired June 30, after more than 40 years of railroad service. Mr. Toon was formerly president, Ohio Barge Line, Inc., Pittsburgh, and the Warrior & Gulf Navigation Co., Chickasaw, Ala.

BOSTON & MAINE.—Has announced the following changes in the Freight Traffic Department: **R.E. Whitney** named assistant chief traffic officer—sales, Boston; **J.I. Bean,** assistant to chief traffic officer; **P.E. McPartlin,** administrative assistant to chief traffic officer; **C.F. Yardley,** manager-piggyback and container services; **J.J. Hickey,** manager—freight rates; **M.R. LeMay,** rate officer; **E.J. Stasio,** sales manager, New York; **M.C. Kallan,** district sales manager, New York; **J.F. Peyton,** sales representative, New York.

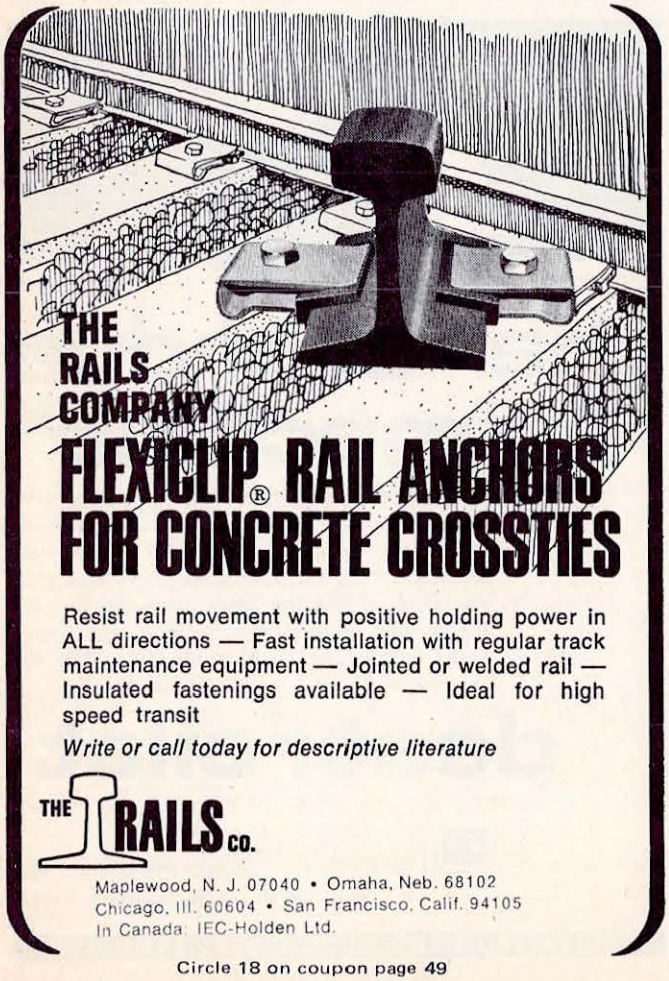
BURLINGTON NORTHERN.—**E.D. Adamson** appointed director, personnel research, St. Paul.

CHICAGO & EASTERN ILLINOIS.—**Don P. Harper** named general manager-rates and divisions, St. Louis.

DEPARTMENT OF TRANSPORTATION.—**Dr. Robert K. Whitford** appointed Deputy Director, Transportation Systems Center, Cambridge, Mass. The center was established almost two years ago to provide a multi-mode transportation research and development capability for the DOT. Dr. Whitford was formerly manager, space shuttle avionics office, **TRW Inc.,** Redondo Beach, Calif.

ELGIN, JOLIET & EASTERN.—**John D. Morrison** appointed general counsel, Pittsburgh. He was formerly general solicitor, **Illinois Central,** Chicago.

FRENCH NATIONAL RAILROADS.—**Joseph C. Blumstein** appointed general manager for North America and chairman, Eurailpass executive committee, New York, suc-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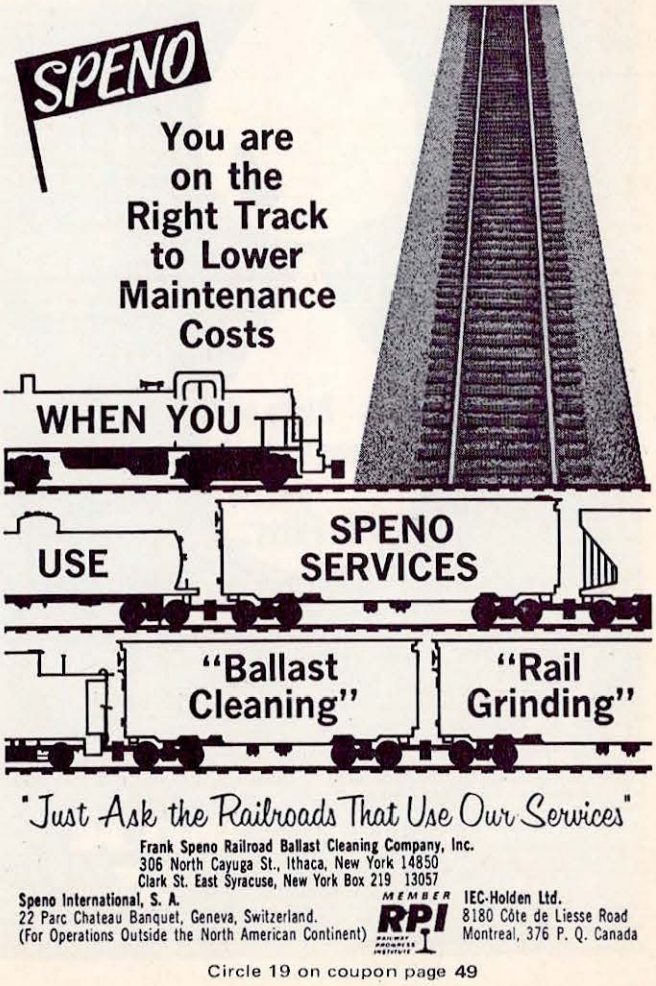
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Circle 19 on coupon page 49

ceeding **Jacques Maisons**, who retired June 30, after 39 years of service. Mr. Blumstein joined the French National Railroads in 1943 and worked on the development of French turbo trains. He was a staff member and technical railroad expert for the International Bank for Reconstruction and Development in Washington, D.C., and worked on various railroad projects in Korea, Argentina, and East Africa.

IC INDUSTRIES, INC.—**Richard P. de Camara** named to the newly created position of vice president-administration, **Midas-International Corp.**, an **ICI** subsidiary. He was formerly vice president of administration, **Illinois Central**, and most recently chairman of a task force studying freight car distribution for the **AAR**, Washington.

ST. LOUIS SOUTHWESTERN.—**B.F. Biaggini** elected chairman of the board, San Francisco, succeeding **D.J. Russell**, who retired May 31, after 52 years with the SP.

SOO LINE.—**Ray H. Smith**, assistant vice president, traffic, appointed vice president, traffic, to succeed **Kenneth J. Sherwood**, who retired June 30 after more than 40 years of service.

SOUTHERN PACIFIC.—**William R. Denton**, general attorney, San Francisco, elected a vice president at Washington, D.C.

WESTERN RAILROAD ASSN.—**Nicholas J. Harlovic** appointed attorney, Chicago. **Edmund Fredland** named industrial engineer.

SUPPLY TRADE

W.C. Cunningham, vice president, **Alco Spring Industries, Inc.**, has also been named general manager.

Arthur J. Doyle, president, **Youngstown Steel Door Co.**, Cleveland, elected chairman of the board. **Robert E. Brill**, executive vice president, elected president.

Alan W. Sampson appointed vice president and assistant general manager, **Farrel Co.** Division, **USM Corp.**, at Rochester, N.Y. Mr. Sampson was formerly vice president and manager, Plastics Molding Machinery at Farrel's Rochester plant.

Mathews Conveyor Division, Rex Chainbelt Inc., Ellwood City, Pa., has been named an exclusive supplier of rail handling equipment for reclamation and welding plants, **Railweld Division, Holland Co.**, Chicago.

C.E. Shepherd has been appointed sales engineer, **Safetran Systems Corp.**, Chicago.

Chemetron Corp. has moved its corporate offices and headquarters for six divisions to 111 E. Wacker Drive, Chicago. **Robert L. Thuerbach** has been named director of operations, Gases and Related Products Group.

Richard J. Jacob, chairman of the board and chief executive officer, **Dayco Corp.**, Dayton, Ohio, also has been elected president, succeeding **David E. Schimmel**, retired.

Dr. William T. Wickham has been appointed vice president, research and development, Waynesville Research Center, Waynesville, N.C. He was formerly director of research there.

TRANSIT

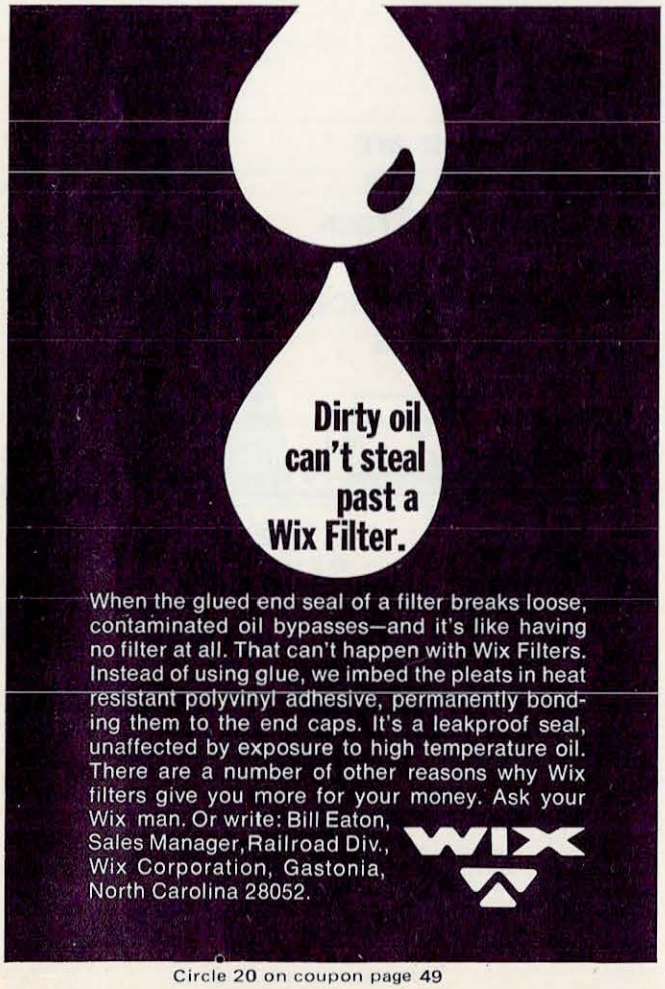
Dee V. Jacobs has been named acting associate administrator for program operations, **Institute for Rapid Transit**, Washington, D.C. succeeding **William Hurd**, retired. Mr. Jacobs was formerly director, Project Development Division.

George Krambles, superintendent of research and planning, **Chicago Transit Authority**, has been named operating manager with responsibility over the transportation and the shops and equipment departments, succeeding **Charles E. Keiser**, who retired July 1. Mr. Keiser also had responsibility over the equipment research and development and the electrical departments. **Evan Olmstead**, general superintendent of engineering, has been given the added responsibilities of the equipment research and development and the research and planning departments.

John W. Dameron has resigned as director of transit operations, **Port Authority of Allegheny County**, Pittsburgh, Pa.

OBITUARY

O.B. Schier, II, 65, former executive director and secretary, **American Society of Mechanical Engineers**, New York, died June 16 at Huntington Hospital, Huntington, Long Island, N.Y.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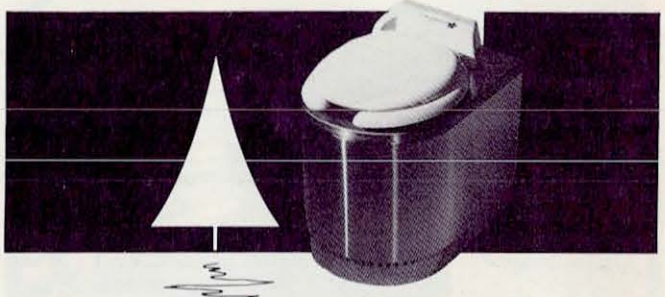
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Viewpoint

Good p.r. is costly—but consider the alternative

Historically, industrywide public-relations effort in the railroad business has been a sometime thing. A problem arises or an opportunity presents itself, and the industry starts gearing up. In a sense, railroad p.r. has been playing catch-up—and that's a tough game to have to play, in a tough league. Now, though, the old approach may be fading away. Out of ASTRO may come the kind of continuing program which the industry so badly needs in the areas of public understanding and public support.

With the ASTRO/Surface Transportation Act program, railroads have built a nationwide team which has done an organized and effective job of taking the railroad story to the people. But what happens if an STA passes in some form, as now seems likely? Does the railroad team disband? Will the non-p.r. participants in the ASTRO/STA program get a pat on the back, a word of thanks and a "We'll call you again if we need you"? Will the public-understanding effort revert to being problem-oriented instead of opportunity-oriented? Public-relations professionals hope not.

One of the key questions raised at the late-June meeting of the Railroad Public Relations Association had to do with this very thing—keeping the team together and building on the momentum generated by ASTRO/STA. It was George S. Paul, Southern's executive vice president-administration, who suggested one framework for developing "a concrete industrywide long-range and immediate program," one which would "think and plan far beyond" the ASTRO/STA campaign.

Paul would start with a small and select committee of the railroads' Advisory Committee on Public Relations, which would work with the AAR in identifying problems and drafting specific problem-solving approaches. Once developed, the program would go to the full Advisory Committee and then to the AAR board for approval; once implemented, it would be carefully monitored.

Would the AAR board give its OK to such a plan? Paul thinks so: "I sincerely believe our presidents could be persuaded to approve such a worthwhile program. But I repeat: The program must be specific, strong, well-planned. We must be able to demonstrate the serious need for such action to get the railroad industry out of the doghouse of public opinion, and we must be in a position to offer some assurance of success. The AAR directors, all practical-minded business executives, can hardly be expected to go along with anything less."

THE ULTIMATE JUDGE: THE PUBLIC

For the industry, government involvement (creative or otherwise) is a fact of life. It is also a fact that the public itself is the ultimate judge of whether a company or an industry really operates in the public interest. Finally, it is a fact of human nature that the average citizen gets most aroused when his self-interest is affected—and so it's incumbent upon the railroads to relate to the individual, to show specifically why railroad programs deserve support.

Follow-through on Paul's proposal would require long-term and continuing commitment by p.r. people and chief executives alike. It would cost a certain amount of money. Would it be worth the expense and effort? Maurice Chevalier had the right answer, when he was asked how it felt to grow old. It's a small sacrifice, he replied, "when you consider the alternative."

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